PRINTING EQUIPMENT ENGINEER

SEPTEMBER · 1936

TECHNICAL PUBLICATION FOR PRODUCTION AN
ECHANICAL EXECUTIVES IN THE GRAPHIC ARTS INDUSTR

THE INDIANAPOLIS STAR
TUESDAY MORNING, MAY 19, 1936.
THREE CENTS.
THE STAR BUYS NEW GOSS PRESS
Bank Box Yields More Brady Gem Loot
FEDERAL RULE OF COAL MINES
9 GOSS HEAVY DUTY
ANTI-FRICTION UNITS . . . AND
3 PAIRS OF FOLDERS
DENTISTS OPEN 79TH SESSION
Today..
BY ARTHUR BRISBANE

Indiana's largest morning and Sunday paper has chosen Goss press equipment!

To enable its printing facilities to match strides with its steady progress, the Indianapolis Star has ordered the installation of 9 Goss Heavy Duty Anti-Friction Units and 3 Pairs of Folders.

This will give The Star maximum running speeds of 150,000 to 180,000 complete papers per hour, delivered from three choke-proof folders. The structural design and advanced engineering principles of this Goss press make possible greater production at the fly with a high standard of printing quality . . . R. O. P. color combinations, unsurpassed by any other daily, will be available to advertisers in The Star.

That The Star chose Goss, after thoroughly investigating all other press equipment, is significant evidence of Goss' outstanding advantages. You are urged to make a similar comparison. Write for facts and figures.

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San Francisco . . . . . 707 Call Building
GOSS FOSTER, Ltd. . . . . London, England

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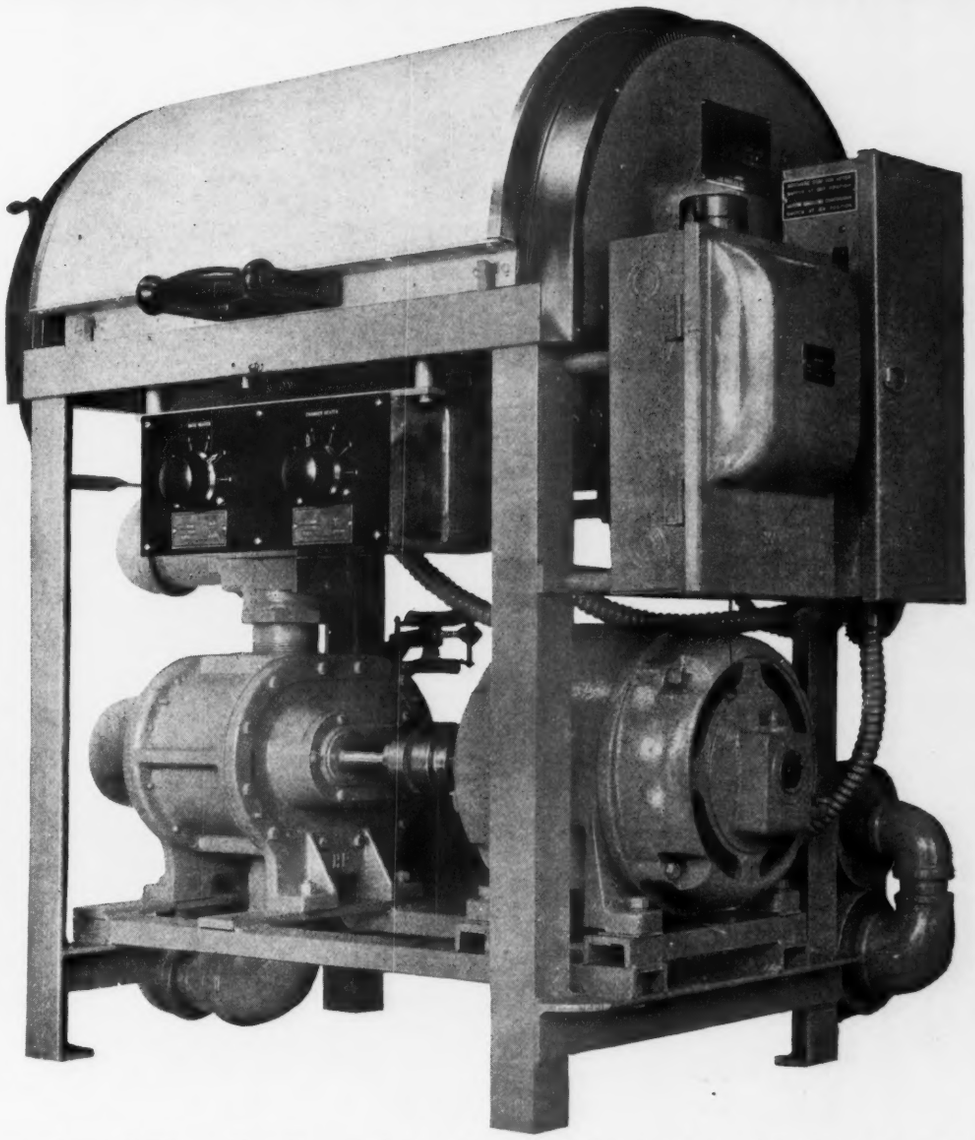

Dry-Mat "scorching" **Must Be Geared** to other mechanical production operations—or you will find **A definite Lag** at this point in your production line.

The Stahi Autoformer Can Be Geared to production schedules — because a definite minimum time per dry-mat can be established with a **Vacuum Forming** and **Electric Drying Machine,** producing **Uniform Casting Levels.**

Why not **Shift Into High Gear** on your production schedules with **The Autoformer.**

STAHI NEWSPAPER SUPPLY COMPANY, INC.

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BURGESS CELLULOSE COMPANY, Freeport, Illinois
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TORONTO TYPE FOUNDRY COMPANY, Ltd., Toronto, Montreal, Winnipeg, Canada

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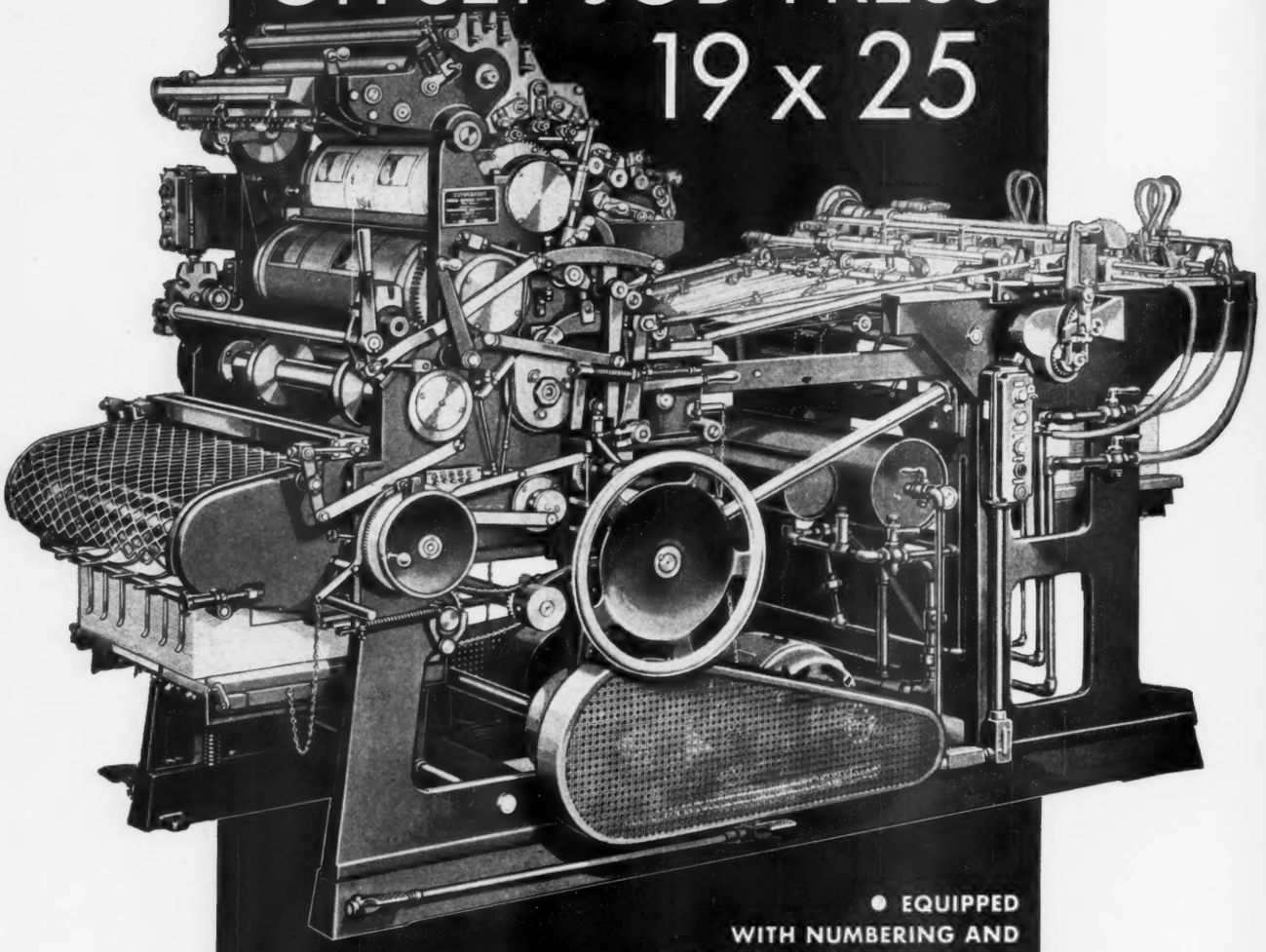
HIGH-SPEED OFFSET JOB PRESS
19 x 25



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Before you make any decision, see this Rutherford High Speed Offset Job Press in operation. Our representative will be glad to show you one in or near your city.

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There is a Vital Difference

TO BE a good performer in any field requires years of specialized effort. Supreme persistence makes the difference between the good and the better performer.

Thus, only by continuous concentration on refining basically sound original design can real excellence of performance be reached in machinery building.

Scott has the longest continuously successful experience in Unit Press Design. Beginning more than twenty years ago with what is today acknowledged everywhere to be THE one best form of Printing Unit, Scott has intensively developed this one form of Unit by a multitude of constant refinements so that today no other Unit can compare with it in thoroughness of satisfaction from every standpoint.

The same thing is true of the Scott Folder, Scott (Jones) Automatic Web Tension Governor and Scott Printed-Web Control, producing, with the Scott Unit, a harmonious ensemble that assures the utmost in quality of printing; in speed and net production; in economy and convenience of operation; and in thorough reliability and safety.

A Newspaper Press Equipment is a substantial capital investment that must be lived with and depended upon for years to come. Why take chances with less refined machines when the proof of Scott Leadership and Scott Refinement of Performance is so clear?

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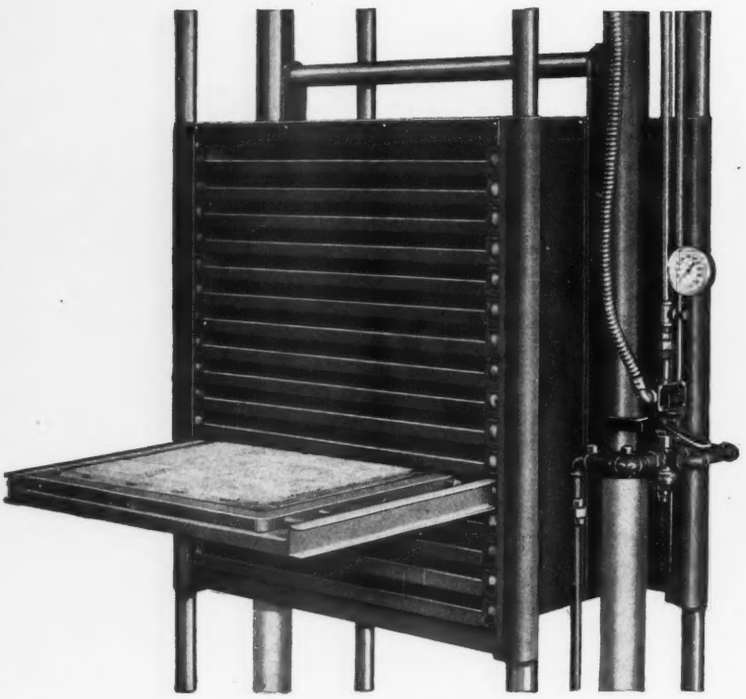
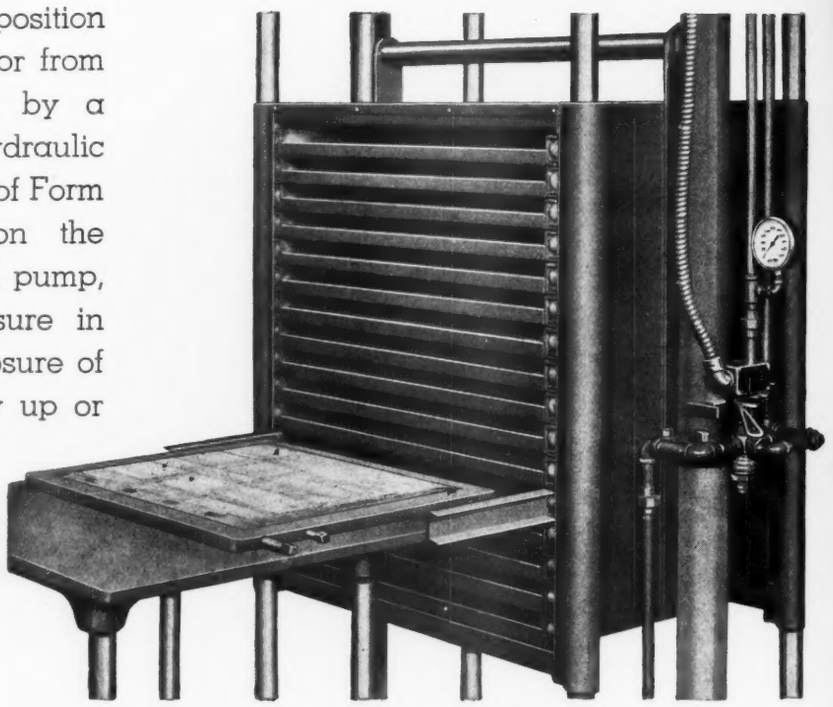
STAHI POWER-LIFT FORM FILE



Close-up view of a form rolled out for changes or corrections. Special steel rollers support the filing shelves of the **Power-Lift Form File,** effecting ease of operation.

Power-Lift Form File in position for transferring form to or from filing position, effected by a movement of the hydraulic valve, illustrated at side of Form File—putting into action the electric motor driving oil pump, creating operable pressure in the hydraulic rams. Closure of valve stops form in any up or down position required.



STAHI NEWSPAPER SUPPLY COMPANY, INC.

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FOUR ROLLER DISTRIBUTION

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SINGLE COLOR AUTOMATIC UNIT

Turns Time Into Profits

A press designed for speed and quality printing . . . producing up to 3000 impressions an hour . . . gives you record low costs on short or long runs. Many new time-saving features simplify the work of the operator and cut make-ready to a minimum.

Uniformly fine printing is maintained at all speeds. Four roller distribution, with no reversing on the form, insures clean, evenly inked sheets. The precision mechanisms plus completely automatic operation give increased production without sacrifice of quality.

Back up your printing service with the proven production efficiency of the modern Miehle 41 Single Color Automatic Unit.

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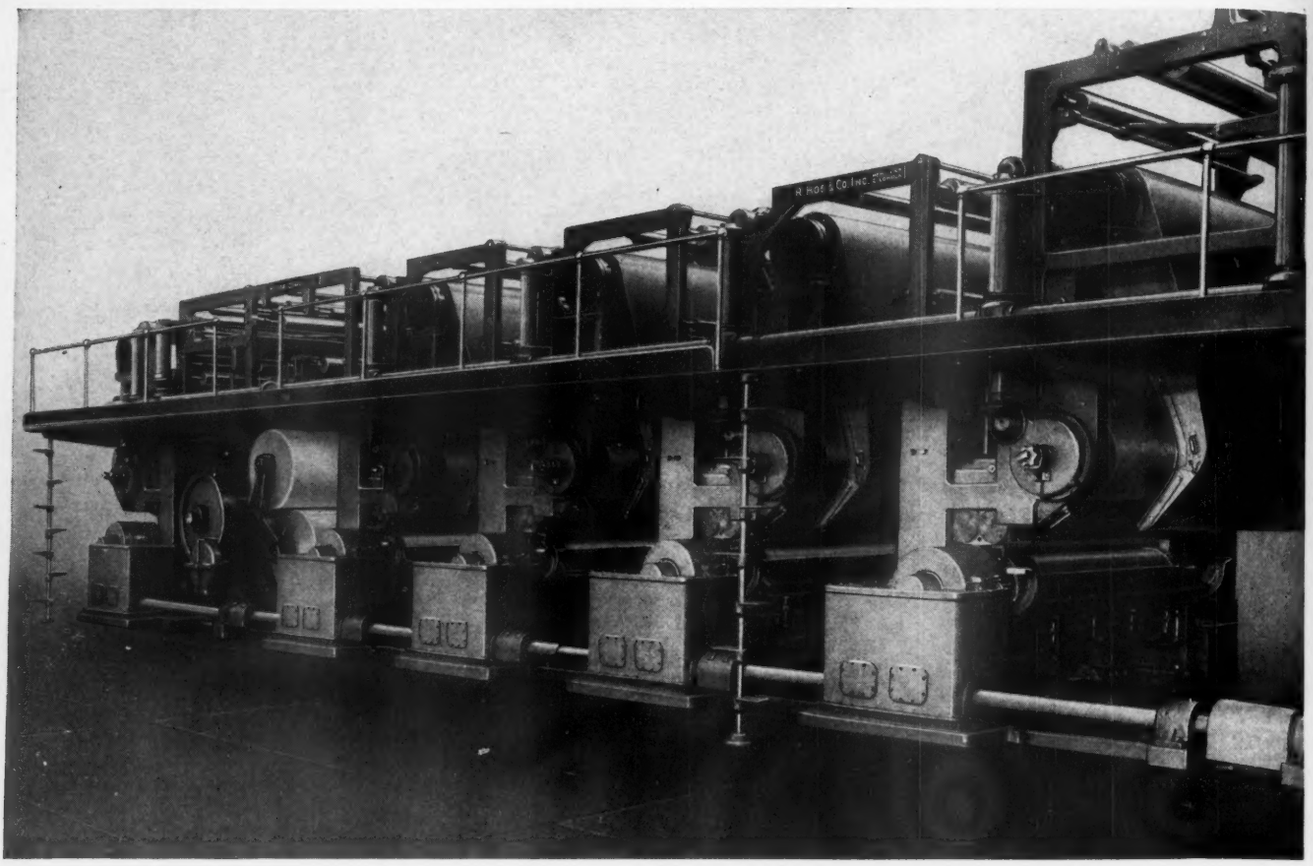
PRINT IT ON A MIEHLE

The World's Finest
MULTI-COLOR ROTOGRAVURE PRESS



Five Unit Hoe Multi-Color Super-Production Rotogravure Press equipped with Hoe Reel.

Hoe is building still more multi-color rotogravure presses . . . this time it is a 5-unit one for the Cleveland Plain Dealer, a 5-unit one for the Consolidated Press Ltd. of Sydney, Australia, and four units for Kable Brothers of Mount Morris, Illinois.

The new Hoe Super-Production Rotogravure Press develops the remarkable speed on multi-color of 15,000 to 20,000 cylinder revolutions per hour . . . equivalent to 30,000 to 40,000 papers per hour, and even higher speeds on monotone printing. And, of course, the finished product displays the fine quality and accurate register for which all Hoe Presses are justifiably so famous. The press is equipped with every known safeguard and every modern improvement, to insure the greatest safety and convenience for the pressmen.

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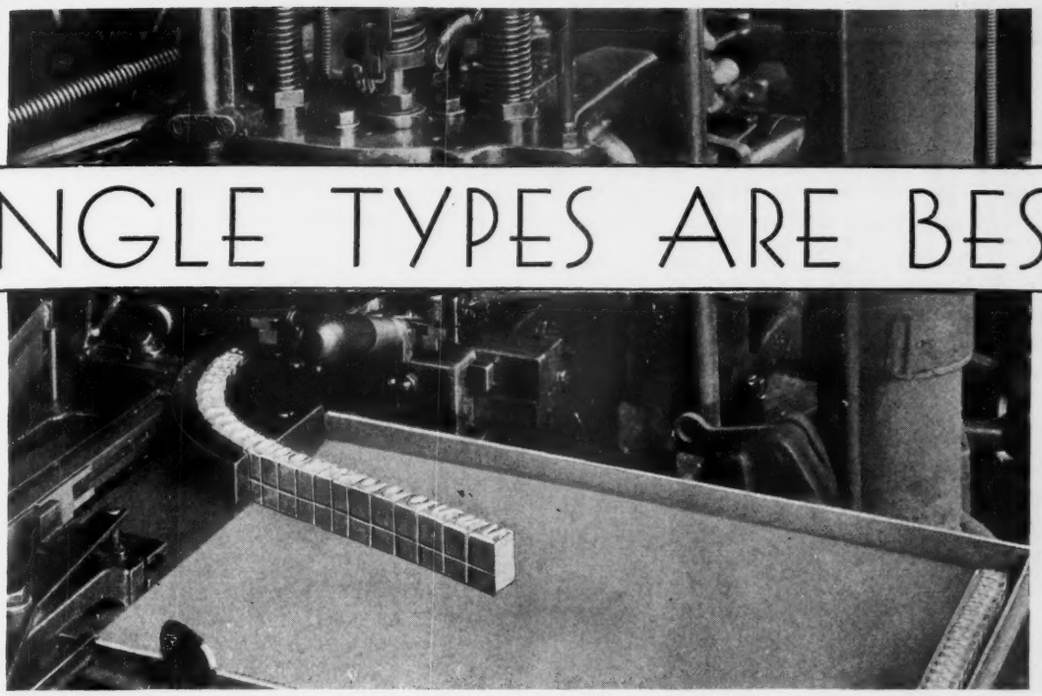
• New York City •

BOSTON SAN FRANCISCO CHICAGO



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Hand composition of single types stands alone in providing that flexibility in the selection of proper sizes of appropriate type faces, ornaments, figures, etc., and their relation to each other and to the space to be occupied, without which good typography cannot be attained. Hand composition of single types made on a Monotype produces the most effective typographic results at lowest expense.

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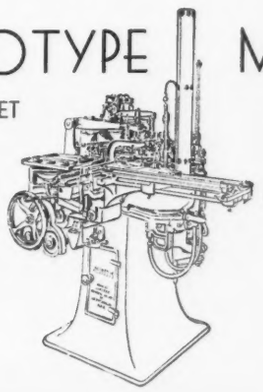
24TH AT LOCUST STREET — PHILADELPHIA, PENNSYLVANIA



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(REG. U. S. & CAN. PAT. OFFS.)

Demand for color in newspaper advertising has stimulated Duplex to produce the most efficient newspaper press for R. O. P. color work on the market today. Due to its great productive speed, efficiency and flexibility for color work, this new press has "taken" the market.

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The Duplex UNITUBULAR is proving popular not only in the United States but in foreign countries as well. NATAL ADVERTISER, Durban, South Africa, has two of these presses in operation and has since ordered a third. A NOTA, Rio de Janeiro, Brazil, is printed on a Duplex UNITUBULAR; another is being erected for LA ESFERA, Caracas, Venezuela. The RIO TELEPHONE COMPANY, Rio de Janeiro, Brazil, and EL IMPARCIAL, San Juan, Puerto Rico, have placed orders for new Duplex UNITUBULAR presses. The parade has started. You should know all about this remarkable new Duplex UNITUBULAR. Write us!

DUPLEX PRINTING PRESS CO.

BATTLE CREEK, MICH.

SEPTEMBER 1936
Volume 52 No. 6

PRINTING EQUIPMENT ENGINEER

Trade-Mark Registered U. S. Pat. Office

A Technical Publication for the Mechanical Executive Responsible for Printing Production, Equipment and Supplies in the Commercial, Magazine, Private Plant and Daily Newspaper Field

Established 1910

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Member of Controlled Circulation Audit

Published Monthly
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Western Manager:
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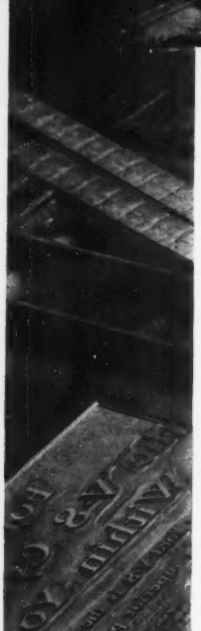
Published by Don Will • Edited by Mac Sinclair

Associate Editors: Ira D. Pilliard, Adam Henry Reiser

floor men's time saved, too

BY BLACK AND WHITE

MATRIX CONTRAST SERVICE



Black and White Matrix Contrast Service is guaranteed to reduce total errors in original machine composition at least 25 per cent.* Think of the savings in operators' time and machine time! Think of the time saved by floor men in the handling of proofs and corrections! Then, too, Black and White Matrix Contrast helps you to put news on the street in less time and with fewer errors. These features will please your editors—and the primary savings effected will please the man who signs your checks. ● Investigate the advantages of Black and White Matrix Contrast! Ask your neighbor who is using the service! Write to us for certified "before-and-after" tabulations made in plants of about the same size as yours.

*25 per cent is the conservative guaranteed figure. Actual averages run nearer 35 per cent.

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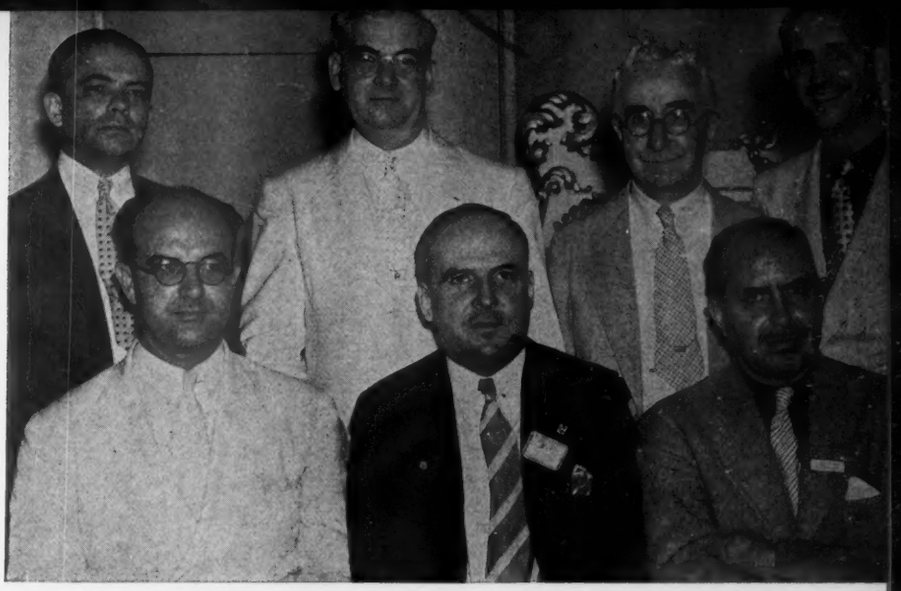


International Association of Printing House Craftsmen Executive Group. Picture was taken at the time of the International Convention at Minneapolis in August. Left to right (lower row): Clark R. Long, President, Washington, D. C.; John M. Callahan, First Vice President, Cincinnati; DeWitt A. Patterson, Second Vice President, Chicago. Back row (left to right): Frank McCaffrey, Third Vice President, Seattle; Mark A. Mullee, Treasurer, Newark, N. J.; L. M. Augustine, Secretary, Baltimore, Md., and Retiring President John B. Curry, Boston, Mass.

Errors

Their Causes and Cost in Newspaper Composition Analyzed

By CHARLES H. STOUT*

COMPARATIVELY few newspaper readers are familiar with the many mechanical processes involved in the production of type for a newspaper. Perhaps they would be somewhat slower to criticize their newspaper for its errors of spelling if they understood the conditions of modern-day production. Lacking this understanding, many readers assume that newspaper publishers have little regard for typographical accuracy. As a matter of fact, however, newspapers spend a large amount of money in the effort to prevent errors.

It is not commonly realized that more than 25% of the total cost of preparing type for newspaper presses is devoted to the detection and correction of errors. Just think of it—25 cents out of every dollar goes to prevent mistakes! More than 10% of all composing room time is required merely for the reading of proofs. The setting and placing of corrections in news and advertising takes upwards of 15%. In other words one printer in every four spends all of his time in finding and correcting the errors which are made by the other three. Yet, in spite of this large expenditure many typographical errors do get into newspaper columns.

Offhand it would seem evident that printers are a pretty careless, haphazard and inefficient lot. But such an assumption is unjustifiable, because printers in reality are a highly literate and exceedingly conscientious group of craftsmen. Being human, they do make mistakes and so human fallibility accounts for a part of this high error cost. A substantial portion, however, can be traced to other sources.

Now, the obvious typographical errors, which are the only ones usually noticed by newspaper readers, may have been made in the original setting of the type. But because of the small interval of time between the receipt of news copy and the closing of page forms there may not have been sufficient time to proofread and correct the type. Proofreaders are human, too, and do not catch all errors. In many cases, errors are made in setting corrections and are not noticed by the correctors because neither the matrices as furnished by the manufacturers nor the type slugs cast from them can be verified easily. That explains how many errors get into print, but not how they are made originally.

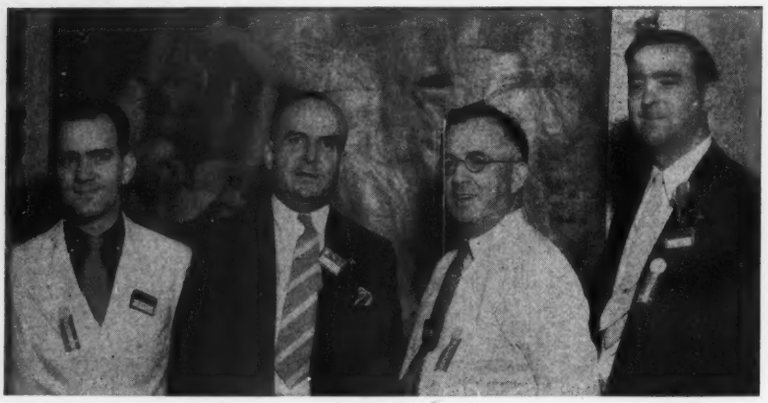
If we look closely into how they are made, we find that many typographical errors result from imperfections of the line-composing machine. The composing machine sometimes is compared to a typewriter; but while it does have a keyboard which bears superficial resemblance to a typewriter keyboard, the similarity between the two machines virtually ends right there.

Let us consider only the differences which result from the pressing of the keys of each of these machines. When you depress the "e" key on a typewriter a simple set of levers is moved so that you are pretty certain to print the letter "e" on the paper which you have inserted around the rubber roller (impression cylinder or platen, if you please). But when you touch the "e" key of a line-composing machine you actuate a series of mechanical devices which ultimately release the "e" matrix from the magazine overhead. If the matrix is properly released it is then carried on a conveyor belt to an assembler where a complete line of matrices is assembled before the line of type is cast. Thus, there is not only the possibility that one of the series of mechanical devices for the release of the matrix will not function but also that when the matrix is released it will not be conveyed and deposited in its proper location in the assembler.

It is quite likely that many printers do not realize there are nearly 100 possible mechanical causes for typographical errors. Chester S. Kelley, chief composing room machinist on the Kansas City *Journal-Post*, has compiled a list of nearly fifty causes encountered by

(*Continued on page 54*)

*Vice President, Matrix Contrast Corporation, New York, N. Y.



Left to right: J. Homer Winkler, Ace Electrotype Company, Cleveland; John M. Callahan, U. S. Printing & Lithograph Co., Cincinnati; A. T. Walker, Harris Seybold Potter, Cleveland; D. W. (Bill) Stock, Lawrence Electros, Cleveland.

Mrs. R. T. Shepherd, and Miss Marie E. Chase, both of St. Louis, strolling among the blue spruce trees on the Automobile Club grounds at the time of the Craftsmen's Convention in Minneapolis.

Cobb's Observations After Minneapolis Craftsmen's Convention

By John E. Coeb*

THE "Sunday night Reception" at Minneapolis (August 9), will go down in history, for at no other convention have the Craftsmen been extended a more cordial welcome. The "Craftsman Special" with over 200 delegates on board was met by a large committee. Led by a large band the motorcade, under police escort, made its way up the street and circled around to the front of Hotel Radisson. Traffic was at a stand-still for fully twenty minutes, while the band played. After all cars were unloaded, the scene shifted to the hotel lobby and for another twenty minutes spirited music shook the hotel from foundation to cornice. Such a welcome will not be forgotten in many moons.

Curry—"White Cloud"

The Monday evening program at Bloomington-on-the-Minnesota Country Club was the bright spot of the entertainment features. Typical of Minnesota's historical background, the climax of the evening came with the Indian Pageant—members of a tribe of Chippewa Indians staging a genuine Dance and Pow-wow. Huge bonfires shed a haunting light as the Chippewas went through their dances, interpreting joy, war, and ceremonials of Indian tradition. President John B. Curry, Boston, was adopted by the tribe. He was named "White Cloud." A fellow Craftsman shouted the plea "How about a little rain, Jack." In answer to this query the Chief Little Wolf made the prophecy that there would be rain by the 15th of the month. Heavy rains came the afternoon and evening of the following Saturday, which was the 15th.

*Superintendent Composing Room, Western Printing & Litho Company, Racine, Wis.

New Clubs

New clubs organized during the year 1936 were well represented. President Iver Peterson, and Secretary Arthur Mattson, of the Duluth-Superior Club were present at all sessions. President A. C. Reis, of the Louisville Club, is a very interesting southern gentleman; has the organization seriously at heart, and related many interesting sidelights of the colorful southern city. Worcester, Mass., a reorganized club, was represented by Secretary Chas. W. Kellogg, whom we regret we did not meet.

Another new club has been organized in Charlotte, N. C. Craftsman Kenneth Suits, Richmond, Va., Representative of the Pennsylvania-president; D. F. Young, Old Dominion Box Company, vice president; Potomac District, assisted in the organization. The men chosen to direct the Charlotte Club are: Howard C. Hull, Pound & Moore Co., president; D. F. Young, Old Dominion Box Company, vice president; J. E. Yoke, Tavern Press, secretary-treasurer; and Arthur Griffin, Rush Printing Company, sergeant-at-arms.

Craftsman George H. Finnegan, of the San Francisco Club gave a most interesting story of the organization of the new Honolulu Club. Craftsman Finnegan visited Honolulu in July; previous to this the Craftsmanship idea had been carried to the executives of the Hawaiian metropolis by San Francisco, and Los Angeles Craftsmen who have taken positions there in the past years. The organization meeting was held July 16, fifty-five applicants signed the petition to affiliate with the International Association.

Studio Clinics

Craftsman Frank Kofron, noted artist-typographer, leaves for Europe for a tour of the art centers of the Old World, and those of modern Europe. Frank carried on several clinics in his studio at the Mono-Trade Company plant during the days of the convention; each afternoon a group of layout men and typographers could be found there

Minneapolis Quartette: A. L. Getchell, Past President Minneapolis Club; Roy Brewer, General Chairman, 1936 Convention; Clarence A. Groettum, President, Minneapolis Club; Allan Pahr, Past President, Minneapolis Club.

Craftsman G. L. Sawyer, Detroit; O. G. Fricke, Ohio-Michigan District Representative, Dayton, Ohio; M. J. Maciejewski, Detroit, Mich.

Alfred Breitengross, The Aldus Press, Baltimore, and Douglas C. McMurtrie, Director of Typography, The Ludlow Typograph Company, Chicago.

Howard King, Typographic Director, Maple Press, York, Penn.; Heywood Hunt, Share Your Knowledge Review, *San Francisco; Bruno Menzer, New York; Charles Trapp, New York; George H. Glaesen, Detroit.*

"talking shop" and comparing notes on trends in type design, layout, and art work.

Plant Visitation

Scheduled Plant Visitations were made to the Buckbee-Mears Company, St. Paul, complete photoengraving; Webb Publishing Company, St. Paul, magazines and general printing; McGill Lithographing Company, Minneapolis, general commercial printing, and Brandtjen & Kluge, Inc., St. Paul, manufacturers of Kluge Automatic Platen Presses. These visitation trips were well attended.

One Lake For All Delegates

"On-to-Cleveland" in 1937 was the cry of an enthusiastic delegation from this famed convention city. The campaign for getting the convention reached its climax during the night of the banquet when a quartette sang the praises of Cleveland over the loud speaker, and circulated among the diners carrying their message in voices pleasing to hear. Craftsman J. Homer Winkler, in his invitation extended at the convention session Wednesday morning, said that though Cleveland could not offer a "lake for every delegate," the one they had was big enough for all.

International Thumb Nails

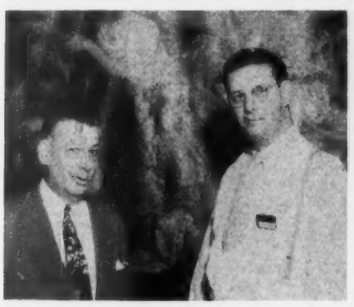
The personnel of the International Officers presents a group of Craftsmen who have earned their high positions in the organization, as well as in the industry, to long experience in the ranks advancing through those stages through hard work, study of problems, and keeping alert to the constant improvements in machines and methods. Craftsmen who have built the "Share Your Knowledge" idea into the most practical educational endeavor the industry ever knew. Who are these men chosen to direct the Craftsmen through the coming year?

Clark R. Long, *President*—Assistant Director of the U. S. Bureau of Engraving and Printing . . . here they design and print the postage stamps, the bonds, and currency of the United States . . . yes, and also the stamps that you find on your playing cards, cigarettes, and all products carrying revenue stamps. Entered the printing field in the Nation's Capitol in 1923 . . . member of Washington Club for ten years . . . served as vice president and president of this club . . . International

CRAFTSMEN ARRIVE FOR THE DINNER DANCE AT THE AUTOMOBILE CLUB

Left to right: Mrs. S. Walter Sears, Minneapolis; Mrs. R. G. Ehman, Pittsburgh; Mrs. Harry Knoll, Chicago; Miss Dorothy Rieck and Mrs. C. K. Rieck, St. Paul; Mrs. John Cobb, Milwaukee. The arrival of the Craftsmen at the Automobile Club in a caravan of huge busses is being watched with interest by this group.

Thomas E. Cordis, San Francisco, Calif.; L. K. Claybourn, Claybourn Process Corporation, Milwaukee; Charles R. Conquergood, Canada Printing Ink Company, Ltd.



Fred J. Hagen, Past International President and son Jack L. Hagen, Chicago Club of Printing House Craftsmen.

Reference Number Helpful

Your back-shop articles are very helpful and instructive. We hope you'll have more of them. The reference numbers each year, too, are very helpful to one who wishes to find the manufacturer of printing equipment or supplies. As a whole, the publication is fine.

Allan H. Pahr, General Supt.,
The Augsburg Printing Company,
Minneapolis, Minnesota.

ENJOYING A QUIET INTERLUDE BETWEEN ACTIVITIES

These wives of Baltimore and Toronto Craftsmen devoted an hour or two upon the veranda of the Automobile Club to renewing old friendships' ties. Left to right: Mrs. L. M. Augustine and Mrs. Alfred Breitengross of Baltimore; Mrs. Charles Conquergood and Mrs. H. H. Wells of Toronto. Mrs. Augustine has missed but few of the seventeen conventions, and Mrs. Breitengross has a perfect score. Mrs. Conquergood and Mrs. Wells have attended every convention for a number of years.

Thomas A. Pape, Atlantic-Mohawk District Representative, Newark, N. J.; Edward J. Ryan, Newark, N. J.; Craig Spicher, Miehle Printing Press & Mfg. Company, Chicago; Charles J. Kueber, Cleveland Club of Printing House Craftsmen.

Back Numbers For Sale

After remodeling and enlarging offices of *Printing* EQUIPMENT *Engineer*, we have decided to dispose of back numbers of this magazine. In the following table, copies are available for the months indicated by a *. The issues for the months marked by a "0" are completely exhausted and are not available.

Only a few copies can be furnished for most of the issues but so long as the supply lasts, these may be obtained at 15c per copy postpaid.

	1930	*1931*	*1932*	*1933*	*1934*	*1935*	*1936*
JAN.		*	0	*	*	0	*
FEB.		*	*	*	*	0	0
MAR.		*	*	*	*	*	*
APR.		*	*	*	*	0	*
MAY		*	*	0	*	0	*
JUNE		*	*	*	*	*	*
JULY		0	*	*	*	*	*
AUG.		*	*	*	*	*	*
SEPT.		*	*	*	*	0	
OCT.	0	*	*	*	*	*	
NOV.	0	*	*	*	*	*	
DEC.	*	*	*	*	*	*	

offices: third vice president, second vice president, first vice president, elected president at the Minneapolis convention.

JOHN M. CALLAHAN, *First Vice President*—Director of Purchases of the United States Printing and Lithographing Company, Cincinnati . . . started at the bottom, running errands for McDonald Printing Co., of the same city . . . worked as router in poster shop . . . became pressman . . . has been with present concern 28 years. Joined Craftsman organization in 1917 . . . rose to presidency of Club, and in 1936 was General Chairman of the Sixteenth Annual Convention; Elected third vice president; advanced to first vice presidency at 1936 convention. A capable executive, forceful character, a man of unquestioned integrity.

DEWITT A. PATTERSON, *Second Vice President*—General Manager of the Rosenow Company, Chicago. Pat's early years were developed through an urge to study art . . . an exponent of gravure printing, his study and understanding of the process and its possibilities has made him without question an authority on the subject . . . through his efforts as Exhibit Chairman of the Chicago Convention in 1933 the most elaborately conceived exhibits of technical procedure in the major branches of the industry were shown. Appointed International Educational Chairman in August, 1934 . . . elected president of Chicago Club in 1936 . . . organized International TVO Exhibits, Speakers' Bureau, and presented at the 1936 convention one of the most tangible plans for increasing membership of Craftsman Organizations that has ever been presented . . . elected second vice president at Minneapolis convention.

FRANK MACCAFFREY, *Third Vice President*—Sole proprietor of The Dogwood Press, Seattle Wash. . . . . printer of fine books . . . an artist . . . a Craftsman in every sense of the word . . . has been identified with Craftsman Movement on the Pacific Coast for many years . . . president of the Seattle Club . . . through the offices of the Pacific Society, serving the past year as president. Co-editor of the *Share Your Knowledge Review* for the past two years. Elected third vice president at the Minneapolis convention.

LOUIS M. AUGUSTINE, *Secretary*—Superintendent Day Printing Company, Baltimore. . . . known as the best secretary the International ever had . . . regardless of the fact that he is the first and only secretary—the qualification of *best* still stands. Has been active in developing organization . . . beloved by all . . . he has retained the secretaryship through the years . . . recording the progress . . . administering with conviction the duties that have been his.

MARK A. MULLE, *Treasurer*—Vice President of the Lackawana Press, Newark, N. J. Entered printing business in 1901, in Philadelphia . . . started as compositor . . . worked through advancements of stoneman, assistant foreman, and superintendent. Present connection made in 1924 with fellow Craftsmen Edward J. and John S. Ryan. Charter member of Newark Club . . . treasurer for many years . . . still holds that office . . . and is doing a fine job as International Treasurer.

Offers New Gothic

A new display face, Phenix, preserves traditional gothic simplicity, yet is free from the usual angular severity of the sanserif form. The new face is sponsored by American Type Founders.

PHENIX...
STYLED FOR GRACE

The new design brings to fruition the tendency noted in the best of recent hand lettering, to soften severe lines with rounded corners and extended cross strokes. Because all strokes are of equal thickness, Phenix is recommended for positive surprints and in printing over tint blocks. This characteristic is also an advantage in offset-lithography and gravure work.

Phenix is available in caps and lower case in six sizes from 24 to 72 point inclusive. A specimen showing of Phenix may be obtained from American Type Founders or any of its various branch offices.

Letters to the Editor*

Dear Sir—With respect to the splendid report on the Minneapolis Convention of the International Association of Printing House Craftsmen in the August issue of *Printing* EQUIPMENT *Engineer*, you have misquoted some of my remarks. I never stated that rubber rollers formerly contained 7% of rubber and 93% of compound. These proportions are very much out of order. I did state, however, that when rubber was being experimented with years ago, 80% to 90% of rubber was used. This explains why rubber tires on automobiles lasted approximately from 500 to 1000 miles and then blew off or were completely cut up. Rubber rollers were in the same category as they became cut up and swelled.

As inventors and research engineers labored to produce compounds and accelerators to strengthen the rubber and meet the resistance, more and more rubber was taken out of the compounds until rubber tires now possess approximately 20% rubber and 80% of compounds and accelerators. Rubber rollers also possess approximately the same amount as stated herewith. Please be advised, however, that the materials used for the production of the finest rubber tires could not be used for rubber rollers. On the other hand, the formula for a rubber roller is no earthly good for a rubber tire.

Some rubber manufacturing companies have from 3000 to 7000 formulæ, and approximately 7000 different samples have been made. Out of the maximum 7000 formulæ and 7000 samples, probably only 300 formulæ can be used for their various products. The Rapid Roller Company has made in its rubber department in the past eight years 1800 samples, 1800 formulæ, and 1800 small and large rollers for test purposes. Out of this total number of formulæ, we use about 20 for our various products.

Synthetic materials like DuPrene, Glyptal, and Thiokol are synthetic rubbers which can be used with or without rubber. This means that various mixtures and formulæ can be made.

DuPrene is extensively used as a roller-making material. DuPrene was discovered by a Catholic priest, Father Julius A. Nieuwland, Professor of Organic Chemistry at Notre Dame University. The reason for calling it a discovery is because Father Nieuwland was not trying to solve the problem of the manufacture of a synthetic rubber. It was by accident that the combination of materials he was working on formed a plastic mass which was the beginning of DuPrene.

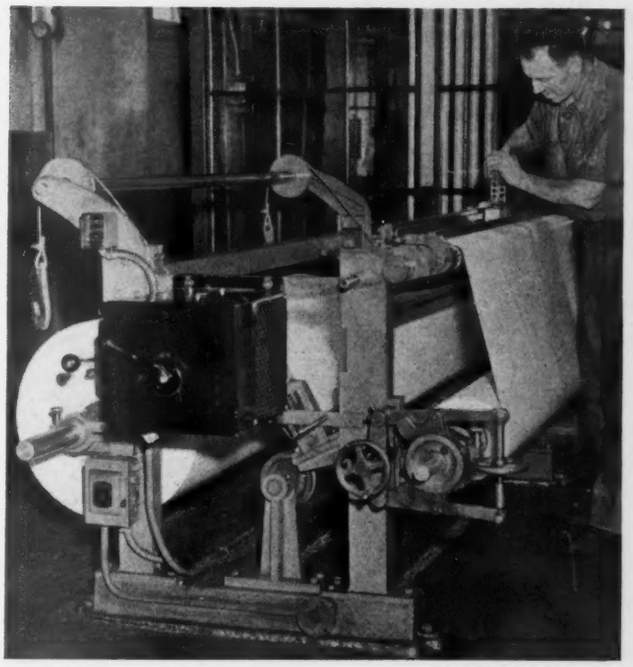
Thiokol, another synthetic material, is also used extensively. Thiokol was discovered by Dr. J. C. Patrick. Dr. Patrick describes how, in his attempts to create an anti-freeze liquid in the early 20's, he poured two chemicals together and obtained a gummy mass that looked and acted like rubber. The material has been improved so that today it has the properties of being insoluble in gasoline, oils, dilute acids and alkalis. Oxygen and ozone will not affect it, nor does it become soft or brittle at high or low temperatures. Tests are being made to adopt this material for the making of printers' rollers. These tests have met a certain degree of success.

Very truly yours,
David M. Rapport, *President*,
Rapid Roller Company,
Chicago, Ill.

**Editor's Note*—We stand corrected. At the Pressroom Clinic of the Minneapolis Craftsmen's Convention, the author of this letter was introduced as David M. Rapport, President of the Rapid Roller Company, Chicago. Through an inadverteney, Mr. Rapport's name was misspelled in the convention report in the August issue of *Printing* EQUIPMENT *Engineer*. Mr. Rapport's company connection was intended to be written as "a Chicago roller company." We are glad, also, to print Mr. Rapport's remarks as corrected, together with some additional information which did not appear in the convention report in the August issue.

Miss Giegengack Will Christen Train

Miss Margaret Mary Giegengack, 11-year-old daughter of August E. Giegengack, Public Printer of the United States, will officially christen the "Printers Progress Special" on Monday, Sept. 14, at 4 p.m. at the Grand Central Terminal in New York City where the ceremonies will be attended by a special delegation from Washington, D. C., including Miss Jo Coffin, assistant to the Public Printer. Greater New York officials of the Employing Printers Associations, trade and craft organizations, newspaper, magazine and book publishers, printing trade school teachers, job printers and advertising agency department heads will also be present.



View of rewinder designed and built in plant of the Baltimore Sun. The machine operates at a speed of about 1000 ft. per min. The operator is sealing a splice with an electrically heated iron especially constructed for the purpose.

Rewinder

Designed and Built in Baltimore "Sun" Plant Reduces White Waste

By A. C. MILLER*

FOR years stumps have been a problem in our Pressroom, and in order to speed up production on the several editions of the Sunpapers, we were forced to throw out all stumps and start up on each edition with full rolls, naturally accumulating quite a few small stumps. As we had more time on the morning editions, the night crews were compelled to use most of these stumps, thus causing quite a drop in production on the morning runs, which also resulted in papers out of fold, due to starting and stopping of the presses to change these small stumps. We also received occasional complaints from subscribers who happened to receive papers out of fold. We ran about 40 stumps a day ranging from 20 lbs. to 400 lbs. each. It is obvious that in addition to customer dissatisfaction, our waste record did not appear to the best advantage.

Of course, in running these stumps the waste was high in both white, print and core, as every time we stopped to make a change we would have at least eight spoiled copies due to the paster, so finally we decided to build a machine to rewind these stumps into a large roll. The paper mill provided us with information as to the method of making splices.

We first built a test machine out of material from our Pressroom machine shop at an approximate cost of $165.00. This machine would rewind about 300 ft. per min.

*Pressroom Superintendent, Baltimore *Sun*.

We had no trouble in running these rewound rolls on the presses, as the splices made were so fine that it was almost impossible to detect them after the paper was printed and no paper breaks were caused by the splicing.

After this test rewinder was in operation one month we noted an increase in productions, and a drop in our waste. Continuing the test over a period of a year, our waste showed reductions and increased production when compared to previous periods before the rewinder was in operation.

Below is a table or our waste percentages for the month of July, over a five year period. Rewinder was used in 1935 and 1936.

	*White**	*Core*	*Print*
July 1932	.35	.33	1.07
July 1933	.46	.29	.96
July 1934	.48	.28	1.05
July 1935	.21	.10	.92
July 1936	.19	.10	.82

*Does not include transit waste.

After checking on the operation of the test machine carefully and proving to our satisfaction that this type machine was of benefit to our Pressroom, we set about designing a new machine with several additional features; a new cutting device, which gives a more even cut across the sheet, and pulls the pasting tape in position to make the splice. The iron for ironing down splices was improved so that it would at all times hold a uniform temperature, thereby eliminating the possibility of scorching the paper. Gears were attached to the motor so the same motor which drives the machine also drives the hoist, and the speed of the machine was increased to run about 1000 ft. per min.

The machine is very easy to operate and requires no experienced men. In our plant the paper handlers or floormen operate the rewinder during layover periods between editions. This new machine was also built in our machine shop, and put in operation in March, 1936. It has proved its worth beyond doubt, and we are now able to throw out stumps on any edition. Patents have been applied for on all the new features.

60% Increase

Printing equipment and supplies advertisers' dollars are being spent increasingly with this magazine because the advertisers' messages are delivered by *Printing* EQUIPMENT *Engineer* to the direct purchase-origin of printing equipment and supplies in selected commercial plants and every daily newspaper throughout the United States.

The August, 1936, issue of *Printing* EQUIPMENT *Engineer* as compared to August, 1935, shows a 60% increase in advertising.

Furthermore, for the first eight months of 1936 a 31% increase in advertising volume over the same period last year occurred.

Show-Through or Strike-Through?

In discussing the means for differentiating between show-through and strike-through on newsprint, at the Chicago Mechanical Conference, John W. Park, Production Manager of the Chicago *Tribune* defined show-through and strike-through as it occurs in newspaper printing. A report of Mr. Park's discussion is presented below:

With newsprint, there is always some show-through, but more so now since newspapers are using the blacker-toned news inks. In determining whether a shadow on the opposite side of the paper is mostly show-through or strike-through inspect the newsprint to see if it has an oily appearance. If the show-through is not accompanied by strike-through of oils in the ink, the outline of the type or cut will have a dry appearance. If the show-through is accompanied by strike-through, it will have an oily appearance. If the strike-through is very pronounced the paper on the reverse side of the sheet (*i.e.*, the side opposite the print in question) will be extremely oily.

A test to determine how much is strike-through and how much is show-through can be made by tearing a portion of the sheet containing the type, on which there is a question as to whether it is strike-through or show-through, and placing it face up underneath the margin of the same sheet of paper. What you now see through the paper is show-through because the ink you are looking at is not printed on the reverse side of the sheet.

In commenting upon Mr. Park's method of determining show-through and strike-through, an A.N.P.A. Mechanical Conference member believes show-through is always accompanied by strike-through and that it is difficult to differentiate clearly between the two. Says he:

News ink penetrates the paper to a certain extent. Therefore, the paper immediately beneath the printing is more or less impregnated with oil. This oil increases the transparency of the paper. The penetration (or absorption) of the oil varies in amount, depending upon both the absorption power of the paper and the penetrating quality of the ink. It varies, also, depending upon other conditions, one of which would be the amount of ink carried. Consequently, we have no means for determining the amount or extent of penetration, but it is always there. If it is severe, we may see the oily halo, particularly if the oil is dark colored. However, ink makers are using lighter colored oils now and the halo in the paper is not so noticeable.

Book Pages Set in Monotype

Volume One of a series of three similar books to be devoted to the showing of type faces in book page form has been issued by the Lanston Monotype Machine Company. The book is bound with Wire-O binding and is made up of a series of four-page leaflets in each of which are shown selected sizes of fourteen of the book faces available on the Monotype.

The purpose in printing the book is to offer printers, typographers, book publishers and designers a means for readily visualizing certain Monotype faces as they actually appear in composition.

A copy of the book will be sent to any printing executive who will write the Lanston Monotype Machine Company on the letterhead of the company with which he is associated.

Report on Water Metal Agitator

SOME time ago, *Printing* EQUIPMENT *Engineer* published an article relating to the agitation of metal in the stereotype pot in the plant of The Christian Science Publishing Society, Boston. The story described in detail an actual installation in that plant, which it was thought was an efficient means for accomplishing the necessary operation.

After a considerable trial period during which operation of the agitator was carefully checked, Superintendent of Production Herbert T. Stanger and his assistants have come to the conclusion that the use of water or steam as an automatic agitating agent for stereotype metal is a dangerous practice and perhaps induces excess oxidation of the metal.

Agitation by water is no longer practiced in the plant of The Christian Science Publishing Society. It was felt by Mr. Stanger and his associates that where water or steam agitation is employed, there is always a danger of too much moisture being passed into the metal at one time (even with a double safety check valve arrangement) in which case the result might be disastrous to those working about the metal pot.

Another problem dealt with in the article referred to was that the stereotype plates were slightly inaccurate as to shape and did not fit the plate cylinders on the presses. It was thought at the time that by cooling the plate in the shaver by flowing the water on top of the plate the fit of the plate to the cylinder was somewhat better. Some time after publication of this information it was discovered that the faulty curvature of the plate was due to a slight inaccuracy in the shaving machine arch. After the curvature in the arch was corrected the practice of cooling plates with water from the top was discontinued.

It is Mr. Stanger's thought that mechanical and production executives throughout the country who read about the experience in the plant of The Christian Science Publishing Society should be informed of the later conclusions arrived at in that plant as a result of considerable study of the problems referred to.

Intertype Increases Net

A consolidated statement of operations for the three months ending June 30, 1936, issued by Intertype Corporation, shows net earnings for the quarter, after taxes and depreciation, amounting to $80,312.08. Intertype's net for the same period last year was $48,892.39. For the first half of 1936 the company's net was $191,803, as compared with $108,436 for the first half of 1935.

Research

Laboratories Devoted to Solving Ink and Other Problems

By STAFF WRITER

PROBING for secrets which lead to better printing, scientists in the Research Laboratories of The International Printing Ink Corporation are using new principles and new methods to develop improved printing technique. Many new and intricate tools of science are in use. For example, photomicrographic equipment has made it possible to study and photograph printing surfaces, ink, and paper magnified many hundreds of times. A tiny printing press is part of the equipment. Observers can watch a greatly magnified halftone come in contact with a piece of paper. Through this apparatus, ink can be seen plainly as it penetrates the surface of a sheet of paper, viewed in cross section.

Photomicrographic research has led to the discovery of useful data on the reaction of ink to different types of paper, how different printing surfaces affect various inks, and other interesting facts.

The seven-story building which houses the IPI Laboratories in New York is divided into individual sections where different types of research are carried on. There are laboratories which deal with pigment investigations, vehicle investigations, physical measurements, wetting and dispersion, industrial finishes, ink development, intaglio methods, and several other phases of ink research. Each laboratory has its own specific problems to study. Practical applications of the principles developed in the laboratories are made in a pressroom on the first floor of the building. Here there are complete facilities for making test runs in all printing methods to check the new inks and new processes evolved in the Laboratory.

The research work takes two general forms. Part of it is directed to general scientific studies which lead to the discovery of facts useful to ink and printing industries. The rest of the work is devoted to solving specific problems of ink manufacture or application.

For example, the Laboratories wanted to find a way to determine the thickness of ink while it was being applied. Ink when wet appears different from the sample

(*Continued on Page 49*)

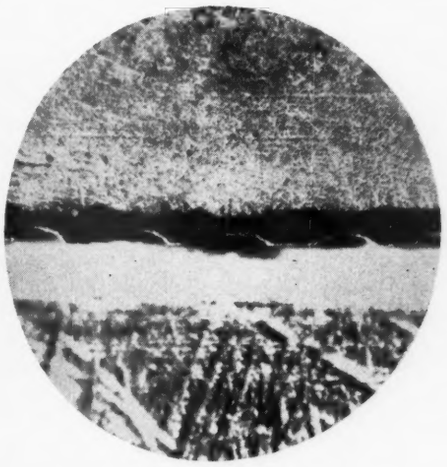


Fig. 1

Here are the first actual photographs of a halftone coming into contact with paper, made at The Research Laboratories of The International Printing Ink Corporation. The view at the left (Fig. 1) shows the halftone as it touches the paper. The view at right (Fig. 2) was taken just after the printing. These photomicrographs, and similar ones, revealed valuable facts about the absorption qualities and distribution of different types of ink. The amount of magnification is indicated by the size of the halftone dots and the height of the cross-section of the sheet of paper—newsprint, in this instance.

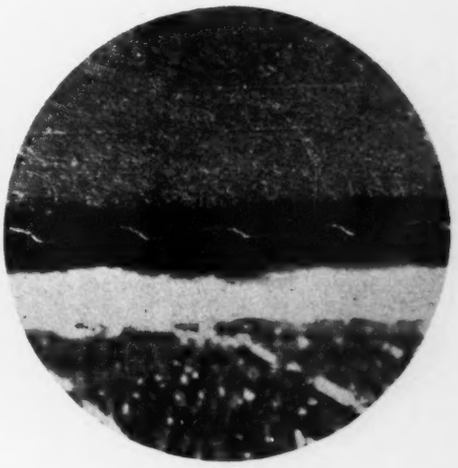
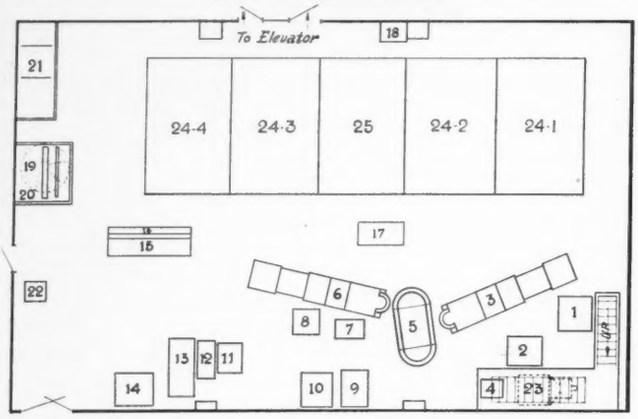
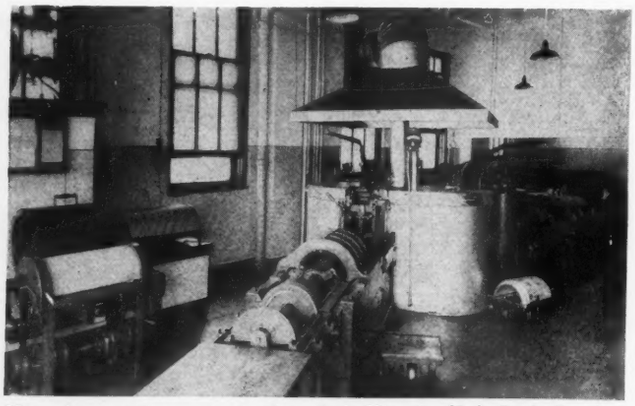


Fig. 2

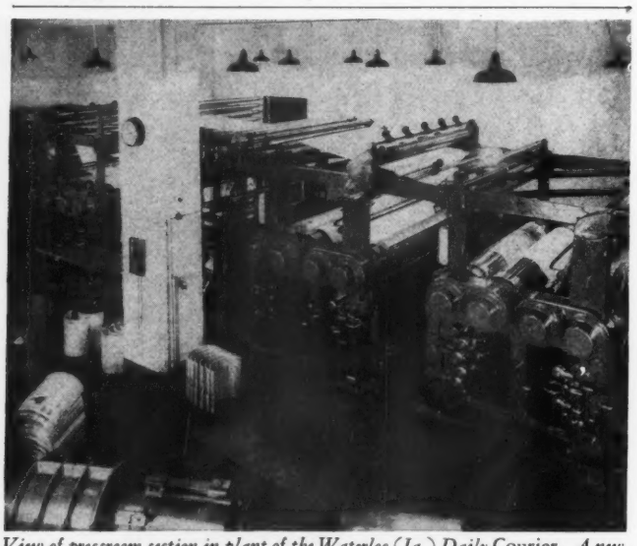
FLOOR PLAN LAYOUT OF STEREO-PRESSROOM, WATERLOO (IOWA) DAILY *COURIER*



1—Spot Table
2—Stahi Forming and Scorching Machine
3—Pony Autoplate
4—Speed Scorcher
5—Six-ton Kemp Metal Pot
6—Pony Autoplate
7—Flat Scorcher
8—Spot Table
9—Small Flat Casting Box
10—Page-size Casting Box
11—Page-size Saw
12—Cast Table
13—Shaver
14—Router
15—Work Bench
16—Roller Rack
17—Layout Table
18—Oil Tank
19—Stairway
20—Suspended Control Boards
21—Storage Cabinets
22—Ink Dump
23—Kemp Metal Melting Controls
24—1, 2, 3 and 4, Duplex Heavy-Duty Press Units
25—Press Folder



View of stereotyping section in plant of the Waterloo (Ia.) Daily Courier. *Recent equipment installations to the plant consist of a Kemp six-ton metal pot, Wood Pony Autoplate, Stahi Matrix Former, Speed Electric Scorcher and new Daylight Unit over the matrix spotter.*



View of pressroom section in plant of the Waterloo (Ia.) Daily Courier. *A new 16-page unit has been added to the Duplex Heavy Duty press. Printing capacity is now 64 pages.*

Layout

Causes Production in Iowa Plant To Flow Towards Press

By R. E. BOLLER*

KEEPING production moving toward the press. This was the principal consideration when the Waterloo Daily *Courier* stereotype and pressroom floor plans were rearranged in connection with the installation of new stereotype equipment and another 16-page unit for the Duplex Heavy Duty press. The press capacity is now 64 pages.

Other new equipment includes an axuiliary 75 h.p. electric press motor, which can be cut in to supplement the old 100 h.p. motor, or may be used separately; new control boards, suspended from the ceiling in the plan to eliminate as much equipment as possible from the floor; a Kemp six-ton metal pot with gas immersion heating units; a new Wood Pony Autoplate, supplementing a similar one already in use; new Stahi matrix former, new Speed electric scorcher, new Daylight Lighting Unit over the matrix spotter, and other auxiliary pieces of equipment.

The accompanying plan shows the arrangement. An attempt has been made to arrange the equipment so each step the workman takes in each operation is in the direction of the press.

A feature of the plan that is working out satisfactorily is the combination of stereotype and pressroom operation in one room as indicated in the plans. Elimination of a separating wall (and wasted steps) has been one of several factors in the arrangement that we believe has increased speed and efficiency greatly.

*Mechanical Superintendent, Waterloo (Ia.) Daily *Courier*.

New Features of the No. 3 C & G

The new No. 3 C & G Cabinet Model Saw Trimmer manufactured by the Milwaukee Saw Trimmer Corporation, is now available with C & G Universal saw blade which cuts brass, copper, zinc, stereotype or linotype metal, and is automatically lubricated while in use. This blade may be sharpened on the machine with the C & G saw attachment. The new trimmer knife grinder enables the operator to recondition the cutters.

The work-holding vise is said to be positive in action and will clamp and hold measures as short as nine points. The 73-pica gauge is adjustable to picas or points and is designed to handle largest overhanging Ludlow and Linotype display slugs. Operating parts are thoroughly guarded for the operator's protection. Saw has positive indexed positions and is adjustable for any depth of undercutting. Right and left-hand miter vise and miter gauge positions rules or borders of any length for face-up mitering. Waste material is guided to the metal truck below the cabinet and the flying of chips is practically eliminated. Hard metal chips are guided to a separate compartment. Cabinet is provided with a convenient work rest and suitable storage space for all accessories. A substantial adjustable lighting fixture assures adequate light at points of operation. The table size is 18 in. wide by 30 in. long, and plate matter 18 in. square can be handled.

Example of "bendayed" stereotype produced by impressing a screened zinc into a stereotype mat and afterwards rolling the mat a second time for the type matter.

Benday

Effects Secured By Double Rolling Of Stereotype Mats

By LeRoy Church*

AT A TIME when the publisher needs to conserve his resources and at the same time give the advertiser every little detail that will enhance the printed page, we find some wide-awake stereotyper putting forth a method of making Ben Day stereotype cuts direct from the type forms.

This is just another instance where necessity has been the mother of invention, and while the resultant product would hardly be acceptable for first-class job work, it nevertheless answers the purpose for many newspaper advertisements and feature headings.

The method of procedure is very simple, and like so many other recent forward steps, one wonders, "why I didn't think of that myself, a long time ago."

When this method of making Ben Day stereotype cuts first started, after the introduction of the dry mat, the ingenious stereotyper who conceived the idea must have had some experience as an amateur photographer, and, recalling his surprise and amazement upon finding one of his prints showing the darling offspring seated in her high chair in the middle of a lake, decided to apply the same principle to his work. This double exposure freak picture is very similar to the method used in making Ben Day casts in the stereotype room direct from the type.

As a necessary adjunct, the dry mat was the forward step that enabled the mechanic to make these money-savers without benefit of engraver.

At first the stereotyper took a square of fine-meshed wire screen, such as is used for fine window screens. This sheet of screen was based in the same manner that the conventional etching is based up. Then the dry mat was rolled and an impression of the screen wire was made in the same manner that a page of type is rolled, with a little less impression. Thus we have a sheet of dry mat paper with an impression of nothing but the window screen upon its surface.

The type form to be bendayed is either locked securely in a chase or tied up sufficiently solid, using plenty of bearers in much the same manner as when a form is sent to the electrotyper. The type form is placed on the bed of the roller and the same previously rolled mat paper with the screen impression upon it is then rolled over the type form, with slightly more impression than was used on the screen, and we now have a form of type matter with a screen background.

In most instances the type face on the resultant cast will not be sharp enough, and here again the ingenious stereotyper has devised ways and means of improving the product by taking the cast and putting it in a vise, face up, and hand-tooling the entire surface, until a nice, shiny face shows through.

However, this wire screen background soon became a thing of the past when the stereotyper decided to get a large sheet of benday etched zinc from the engraver. Thus fortified, he can now put on the same fine background as the photoengraver.

Of the several examples shown it is apparent that small condensed type is not as suitable for this class of work as are the regular width faces.

It is also very likely that metropolitan newspapers would refrain from using such benday cuts because they do not print as clear and clean as the ones made by an engraver. However, the publisher who finds himself beset by an avalanche of "gimme" customers can produce this form of eye-catcher reasonably.

In the plant of the Akron (O.) *Beacon-Journal*, where the accompanying examples were produced, "Terry" Mahan, foreman of the stereotype department, has become quite an artist in this line of work. All work of this class, however, is handled the day before publication.

Some advertisers show very poor judgement in the sections or parts of ads to be thus Ben Dayed, as witness the boxed section of "Wednesday Bargains." From the standpoint of good advertising, such large sections of small type are seldom screened for newspaper work. Much of the small type becomes blurred in the printing

*Typographer, Akron (O.) *Beacon Journal*.

Specially Priced
WEDNESDAY BARGAINS!

MEN'S SHIRTS
49c
Fine broadcloth shirts in neat patterns or plain colors. Full cut, collar attached. Sizes 14 to 17.
Main Floor

Boys' Wash Suits
39c
Regular 50c quality suits of well wearing materials. Plain colors or combinations. Sizes 3 to 7. Fast colors.

MEN'S UNIONS
39c
For summer wear. Fine count, pin check nainsook reinforced suspender back. Elastic snubber.
Main Floor

SHIRTS - SHORTS
12½c ea.
Boys' regular 10c shirts and shorts in a special lot of [illegible] sizes. [illegible]

In the screening of stereotype mats described by Mr. Church, he points out that blocks of small type matter do not reproduce so well by the double rolling method.

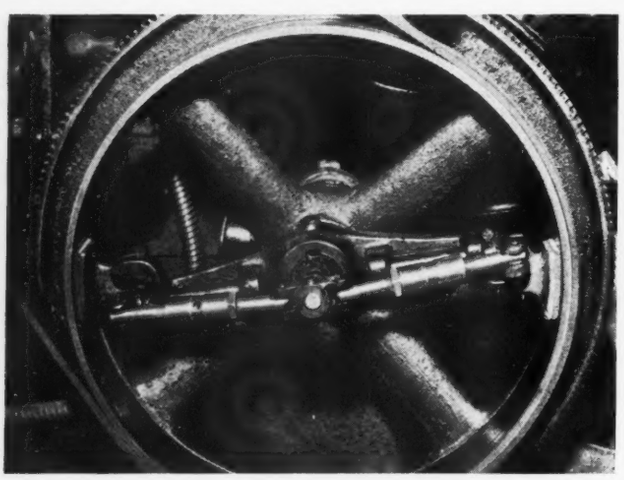
and one must strain the eyes in an effort to read it. Mr. and Mrs. John Public refuse to impair their vision in this day and age even when searching for bargains.

When properly used, this home-made benday can be made to do an excellent job of pepping-up an otherwise commonplace piece of typography. Such examples are streamer or banner lines across the top or bottom of an ad, or the box headings of sections that need special emphasis. A good example is shown in the accompanying reproduction: "Thursday and Friday Holiday Specials."

Standing heads for news features can also be handled with an added touch of artistry by counter-sinking a half-tone cast of the author of the feature.

Adjustable Clutch Links

V. O. Williams, machinist in the plant of the Illinois *State Register*, has devised an adjustable friction clutch arm link for clutches on line-casting machines. The redesigned clutch link is somewhat like a turnbuckle. In place of the conventional link, Mr. Williams has interposed a sleeve between two link sections. The



Verne Williams of the Illinois State Register *has devised an adjustable clutch link for line-casting machines. The adjustable links make possible a quick setting of the standard clutch adjustments as well as to compensate for unequal wear in link leverage.*

sections are threaded with right and left-hand threads and a check nut holds the sleeve in adjustment.

The redesigned links may be used for obtaining a quick adjustment of the friction clutch with respect to the space between the driving shaft collar and the machine bearing, which is 15/32 in., and the space between the collar and the forked lever which normally should be maintained at about 1/32 in. In the case of machines which have been used over a long period of time, the sleeves may be used to equalize any irregularity of leverage between the two links, by simply turning the sleeve of one link to make the link leverage equal to that of the other link. In many cases, the means of adjustment afforded by the link sleeve will make possible elimination of the objectionable rattle caused by a dragging shoe facing when the machine is resting at normal position.

When Is a Printing Press Registering In Proper Manner?

By B. D. Stevens*

NO JOB of printing, particularly multicolor printing, can be called good unless the various colors are in register. Perfect register means just one thing, and that is, absolute hairline on hairline, halftone dot on halftone dot. Presses can be built and are built which in themselves, when properly adjusted, will give this kind of register, but the material (paper) on which they have to work is a very delicate and changeable substance and due to this fact we all know that there is no such thing as a job all the sheets of which are in perfect hairline, dot-on-dot register.

The most important point in regard to the paper which affects register is that the sheet shall lie perfectly flat and without bulges or wrinkles. If the sheet is not perfectly flat and it passes between two rolls or cylinders, the surfaces of which are traveling in perfect harmony, the tendency is for these rolls or cylinders to try and flatten the sheet out and in doing so the rolls are trying to stretch the paper in certain spots and compress it in other spots. This necessarily distorts the sheet and prevents any possibility of securing good register. So far as register is concerned, the exact moisture content of the paper is not important. It is only important that the moisture content should be uniform throughout the sheet and as nearly as practical of the same moisture content as the air in the room in order that the sheet shall not change by taking on more moisture or drying out while it is passing through the printing operations. It has been found better to have the moisture content of the paper slightly higher than room conditions rather than lower.

Recent examination of a variety of jobs being run in different large printing plants has indicated that there should be some modification of the term "register," and the term "commercial register" has been suggested. In some cases the following has been accepted as a definition of commercial register:

> In order that a press shall be considered as registering properly, it must be capable of running paper having perfect edges at the guide points twice through the press and print a line of the thickness of a one-half point face rule at the front guides and side guide without the line showing double. In other words, the line printed by a one-half point face rule may be thickened by running through the press twice so that it is the width of a one point face rule and still be considered in register. A tolerance of one per cent, however, will be considered permissible, that is, if on an average one sheet in every one hundred shows a slight double line, and the other ninety-nine sheets do not show the one-half point face line thickened to more than a one point face line, the register shall be considered as coming within this rule.

In other words, it was found that for the great majority of jobs that are delivered and paid for, the register came within this definition. This does not mean that where a job demands hairline, dot-on-dot register that it cannot be secured. It can be secured but with the exercise of the greatest care, greatly increased cost and greatly increased spoilage.

*Vice President, Miehle Printing Press & Mfg. Co., Chicago, Ill. Abstract of address delivered before Offset Clinic, International Association of Printing House Craftsmen Convention, Minneapolis, Minn., August, 1936. Mr. Stevens' paper was entitled: "Recent Developments in Offset Presses and Offset Printing."

74 features that contribute to efficiency of operation . . . ease of maintenance . . . improved appearance; including the Optic-Aid Front which increases production by eliminating distracting motion and reflections in front of the operator's eyes, and the One Turn Shift.

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LINOTYPE MEMPHIS FAMILY

Eugene D. Jagareski, Mechanical Superintendent of the Albany (N. Y.) Gannett Newspapers. As head of the production division of The Knickerbocker Press *and the Albany Evening* News, *Mr. Jagareski leads a busy life. When he started to learn the printing trade 30 years ago, one of his jobs was to carry the mail to the postoffice, which at that time consisted of one bag and he carried it easily. Now a fleet of eight big trucks is required to do the job for a plant that has expanded accordingly. Mr. Jagareski is well known among newspaper mechanical executives in the A. N. P. A. Mechanical Department. In the rejuvenation of the Albany Gannett Newspaper Plant he has contributed many of the ideas which lend to its efficiency.*

Alterations

At Albany (N. Y.) Gannett Papers Will Speed Up Production

THE HOME of the Knickerbocker *Press* and Albany (N. Y.) Evening *News* is being modernized. A complete new front combining three old store fronts into a modern black facade trimmed with aluminum and embellished by hollow aluminum doors is the striking part of the picture. Above this and extending to the roof, the front will be of white material.

The plan for the improvements was set in motion by A. J. McDonald, new general manager of The Gannett Newspapers in Albany. In inaugurating his campaign to rehabilitate the plant, Mr. McDonald called in John A. Burke, of Rochester, production manager of The Gannett Newspapers. Mr. Burke in turn enlisted the services of Eugene D. Jagareski, Mechanical Superintendent of The Gannett Newspapers in Albany, and together they tackled the job. Architect Andrew L. Delehanty put the plans into practical form.

The plans provide for a new, wide central entrance and broad stairs leading to a new, spacious lobby on the second floor. This lobby gives ready access to all second floor departments of both newspapers. The entire entrance from the first to second floor lobbies will be done in white oak paneling, light brown ceiling with terrazzo floor covering and treads to the stairs. Bronze rails will be used on the stairs.

At the right of the lobby is a spacious business office made attractive by its new finish and a modern octagonal main counter fixture.

On the left classified department operatives are separated from solicitors and the public by a glass partition and they work at a new fixture which exemplifies the newest ideas in classified telephonic solicitation.

A hall leads from the lobby to a large and beautifully finished conference room and to the several mechanical departments housed on that floor. These departments include stereotype, press, machine, mail, multigraph, stencil and shipping.

At the top of the front stairs on the right is General Manager McDonald's office. It is convenient to everybody and to all parts of the plant.

The advertising, circulation and editorial departments of The Knickerbocker *Press* are at the left.

At the right the advertising and circulation departments of the Albany Evening *News* will be equally convenient of access. A separate stairway leads to the New York State bureau of The Associated Press and the *News* circulation department.

Preceeding down a long hall on the second floor one reaches the new photographic dark room. Formerly the dark room was located near the third floor front, far away from the departments with which it worked. Now it is nestled in between the editorial, engraving and composing rooms where it is convenient to all of these departments. Here too, just off the composing room is the new locker room for the printers.

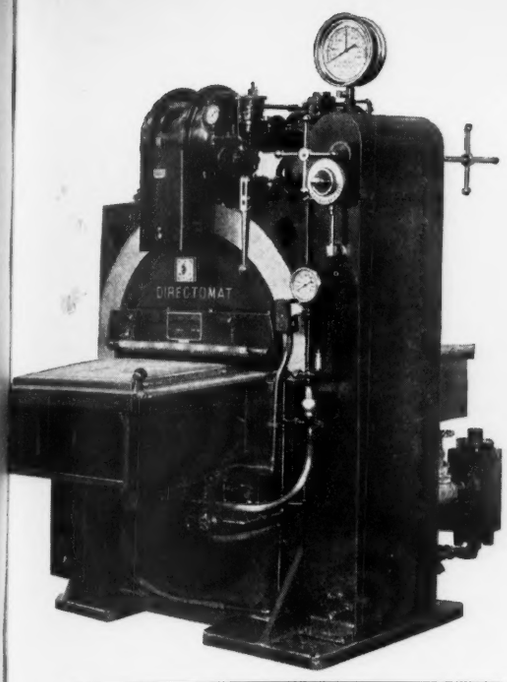
The engraving department is coming in for some improvements, but the editorial, composing, press and other operating departments are not being included in the changes. The mechanical departments are in such condition that they do not need extensive improvement.

Mr. Burke expects the work to be done not later than October 1.

Up-to-date Front Elevation of Albany (N. Y.) Newspaper Plant. With the front, from the sidewalk to the roof, completely modernized and the entire interior renovated and thrown open, the new home of The Knickerbocker Press *and the Albany Evening* News *will provide comfort and facility to the employees and far greater service to the public.*

Attractive Color Page

A very attractive and well executed color page was printed in the Cleveland *Press* on Saturday, June 13. The page consisted of full size portrait of Governor Landon. Red, blue and black were the colors used. So far as mechanical execution is concerned, the supervisory work of Messrs. Godfrey, Fuller and Ogden resulted in a pleasing presentation. Registration is unusually good and it is evident that the limitations imposed by newspaper color printing were taken into consideration in the production work incidental to making the engravings and the stereotype plates.



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POSITIVE PRESSURE CONTROL AUTOMATIC PRESSURE DROP

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DUAL CONTROLS— OPERATION FROM BOTH SIDES

SUCTION DEVICE FOR SPEEDING UP DRYING OF MAT

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Comparison Shows Superiority of the

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Hydraulic Matrix Press

COMPARISON sells more DIRECTOMAT Matrix Presses than all the salesmen in our organization. Comparison shows that the DIRECTOMAT incorporates many exclusive features. Progressive managers know it.

They know that with proper care and suitable materials the DIRECTOMAT will positively produce a better and sharper matrix than can be obtained by matrix rollers, steam drying presses and the brush beating system.

They know that the DIRECTOMAT is unequalled for R.O.P. and magazine color work, black-and-white newspaper work, syndicate work, book work and job work.

They know that ONE DIRECTOMAT will easily do the work of TWO Matrix Rollers while requiring the space of only ONE Roller.

They know that the DIRECTOMAT eliminates the guesswork associated with the roller method of moulding, as it permits application of the correct amount of pressure to conform with the varying characteristics of form, mat and blankets.

These are among the many reasons why the DIRECTOMAT is bought in ever increasing numbers by discriminating managers. To buy the best is to practise real economy. And the DIRECTOMAT may be expected to continue to give dependable, trouble-free service long after a competitive moulding machine would have to be scrapped.

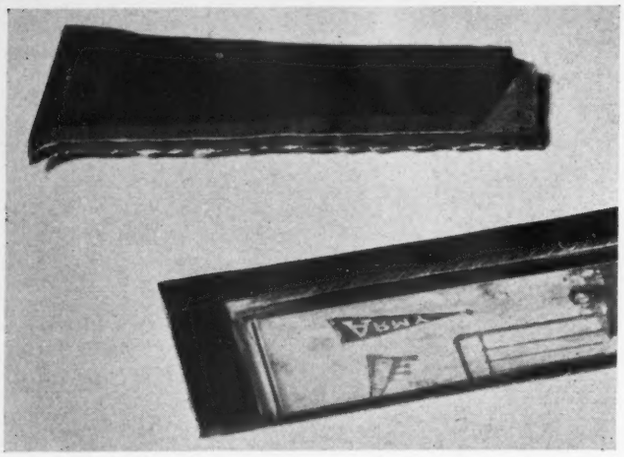
Considered from the standpoint of value given and received, such facts set the DIRECTOMAT definitely apart from competition.

Installations in all principal cities. Demonstrations gladly arranged at your convenience

LAKE ERIE STEREOTYPE EQUIPMENT CORP.

DIVISION OF LAKE ERIE ENGINEERING CORP.

KENMORE STATION BUFFALO, N. Y.



In the upper section of this halftone is shown a section of "DuPrene" (chloroprene) engraver's printing plate. This material consists of a "DuPrene" composition face and a rubber composition backing with fabric insert between. The rubber composition (or base) is also backed with fabric as can be seen by inspection of the swatch shown above.

In the lower section of the picture is shown a section of molded "DuPrene" printing plate. The bearers have not been trimmed from the plate. The printing face of the cut was chalked to obtain contrast since molding material normally is black. Press manipulation of both kinds of plates is similar to that of rubber plates.

Du Prene

Synthetic Resin-Like Material Is Processed for Roller and Plate-Making Purposes

By Staff Writer

MANY difficulties have been encountered in the printing trades since its inception and these difficulties have been multiplied with development of that industry as a Fine Art. As the need for solution has arisen, E. I. du Pont de Nemours & Company has participated in helping to solve some of these problems by the extensive research and developmental work carried on in its laboratories. A comparatively new product contributed by the du Pont organization is Chloroprene Rubber sold under the trade name of "Du Prene." When properly compounded and vulcanized and used for rollers and plate-making material, it is said to be resistant to the deteriorating effects of inks, oils, driers, gasoline, heat and solvents.

Chloroprene rubber, it is stated by the manufacturer, may still not be the perfect material for the purposes for which it is being used in the printing trades, but its adoption for rollers and plates shows that it is suitable for certain printing requirements. Further improvement in this synthetic rubber, for which the du Pont Company is constantly striving, and improvement in the compounds used in the printing trades may further increase its value as a material for printing rollers and plates.

"DuPrene" is manufactured in a form resembling crude rubber, and, like natural rubber, it must be compounded, processed and vulcanized to meet specific service conditions. Therefore, chloroprene plastic polymer is supplied to rubber manufacturers who process and vulcanize it in much the same manner as they do natural rubber. Compounds of "DuPrene" closely resemble compounds of natural rubber in resilience, strength and abrasive resistance, and, in addition, manufacturer states, have a number of special properties.

The synthesis of chloroprene rubber starts with the formation of calcium carbide from coal and limestone. Calcium carbide is converted to acetylene gas. Acetylene gas is polymerized in the presence of a catalyst to form a material known as monovinylacetylene. Treatment of this material with muriatic acid produces chloroprene. When freshly made, chloroprene is a thin, clear liquid, However, it is unstable and cannot be kept in the liquid state. It spontaneously changes to a plastic solid which closely resembles the natural rubber of commerce. In this form it is known as unvulcanized plastic polymer, or simply as "DuPrene," and is sold to rubber manufacturers for further processing.

In processing chloroprene, the same equipment is used by manufacturers as is used in processing rubber. The final operation in rubber processing is a heat treatment which converts the plastic compound into a resilient, tough material. The same treatment or vulcanization is applied to chloroprene rubber products and with the same equipment. One essential difference in the vulcanization of "DuPrene" and rubber is that while sulfur in some form is necessary to the proper vulcanization of rubber, its presence is not essential to the vulcanization of "DuPrene." Many chloroprene rubber compounds, however, contain sulfur because it imparts certain desired properties to the finished product, but there are many compounds containing no sulfur.

"DuPrene" first found favor in the job-printing, lithographing, and color-printing branches of the industry as a roller material. Subsequently, experiments were conducted in the newspaper field with satisfactory results. In the commercial field it is used as a material for making plates, the latter being made either by the molding or engraving method.

Rollers made of chloroprene rubber composition have been found to permit uniform printing and have long service life because of the resistance to deteriorating inks, being particularly resistant to linseed varnish ink and inks containing mineral oils, such as newsprint inks.

These compounds it is claimed, resist the deteriorating effect of washing solutions and are not affected by weather conditions. Swelling is practically negligible, and experience has shown that any swelling that does take place is uniform.

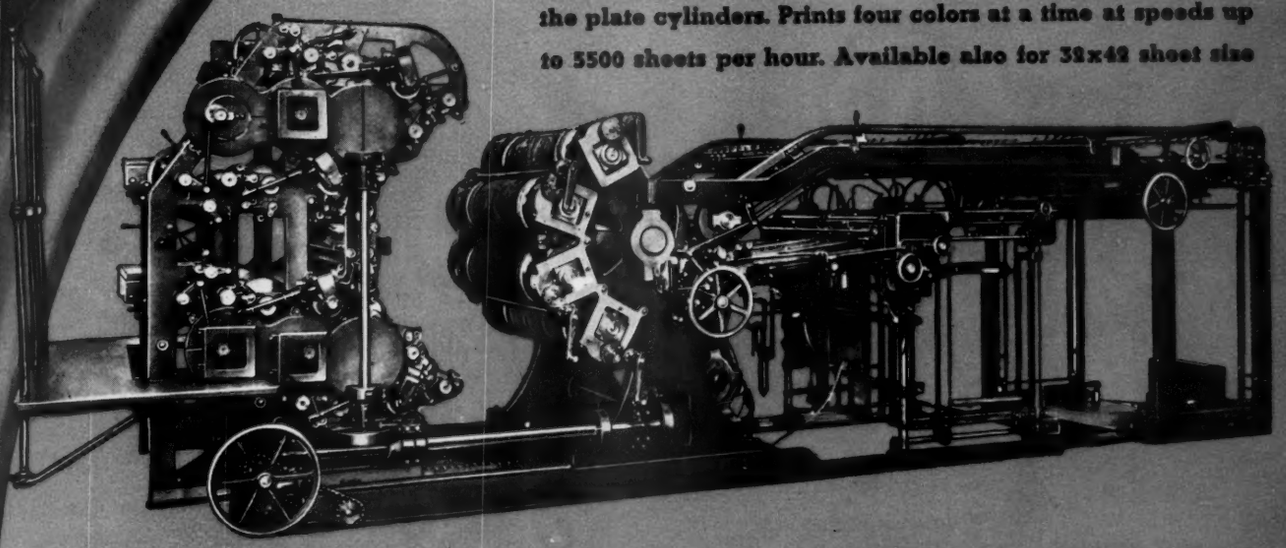
The resisting qualities of DuPrene commercial and newspaper rollers show that inks and washing solutions

(Continued on Page 50)

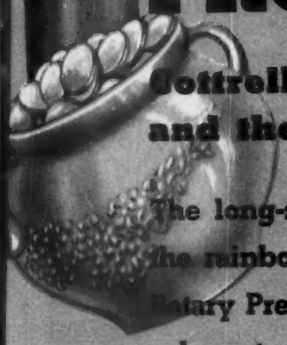
CLINE-WESTINGHOUSE ELECTRICAL EQUIPMENT
ALTERNATING CURRENT
FOR OFFSET PRESSES
DIRECT CURRENT
ENGINEERED FOR . . . LOCAL CONDITIONS
CLINE SYSTEM
DESIGNED FOR . . . PRESS REQUIREMENTS

Cottrell

Below, Cottrell 25x38 Rotary Press opened up for access to the plate cylinders. Prints four colors at a time at speeds up to 5500 sheets per hour. Available also for 32x42 sheet size



PROFITS in COLOR PRINTING



Cottrell Rotary Presses give you the rainbow to work with . . . and the pot of gold at the end of the rainbow is now a reality

The long-sought pot of gold at the end of the rainbow has been discovered. Cottrell Rotary Presses, printing the full rainbow of colors at remarkably high speeds, offer you a new and dependable method of earning large profits.

Consider, for example, the 25x38 Cottrell Press shown above. Printing four colors at a time, at speeds up to 5500 sheets per hour, this press offers a very large return on a moderate investment.

There is no question about the demand for color printing. Full color is the natural and popular medium for reproducing pictures; and new requirements for color printing in volume are constantly arising.

For a new source of dependable, substantial profits, investigate Cottrell Color Presses.

C. B. COTTRELL & SONS CO., WESTERLY, R. I.

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SMYTH-HORNE, LTD., 1-3, BALDWINS PLACE, GRAY'S INN ROAD, LONDON, E. C. 1

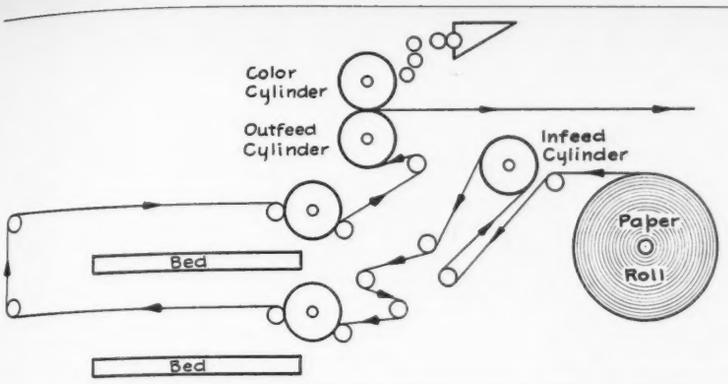


Diagram representing the web lead on a flat-bed newspaper printing press to which has been attached a Watkins color printing unit. The use of the color unit does not interfere with the ordinary run of the web nor are any of the adjustments disturbed when using the color unit, either when switching from black to two-color runs or from two-color back to black. The color printing operation is obtained by the printing cylinder impressing the color die or rubber plate on the newsprint as it passes over the feed cylinder and using the feed cylinder as a printing platen.

Rubber

Dies or Plates Used for Printing Color in Newspaper

By STAFF WRITER

ED WATKINS, a practical printing pressman in the plant of the Monrovia (Calif.) *News-Post*, has been granted a patent (No. 2,040,226) on a color printing unit for attachment to flat-bed newspaper printing presses. The color unit as provided by Mr. Watkins, is mounted above the regular black-and-white cylinders. The color cylinder is driven by a gear attached to the outfeed cylinder and meshes with the printing cylinder gear which drives the vibrator and rollers. The color cylinder gear is fitted with a slip hub which permits sliding the gear out of engagement when it is desired not to use the color unit.

The color unit consits of a single cylinder positioned over the outfeed cylinder of the press, together with vibrator, distributor, duct, form roller and ink fountain.

An interesting application of the device for newspaper color printing lies in the application of rubber printing dies from which the actual color is imparted to the paper. One of the reasons for adapting soft rubber dies or plates is that they can be made to take suitable impression without imposing any strain upon the superstructure of the press. Another important reason, in the mind of the inventor, is that the dies or plates are made to work directly against the newsprint as it passes over the steel outfeed cylinder which eliminates the necessity for using a packed printing cylinder.

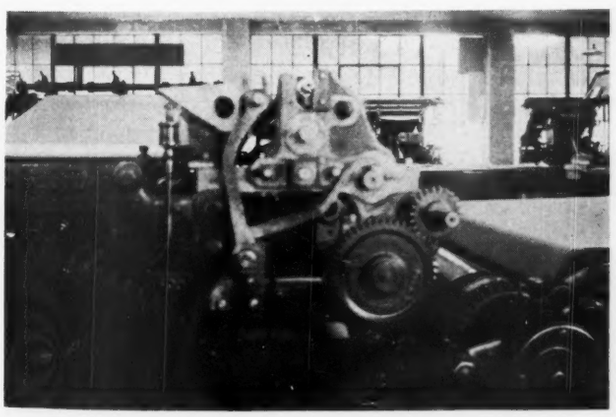
By Mr. Watkins' method the dies are made by the rubber stamp method. The design or lettering for the plate is reproduced from conventional type, cuts or Ludlow matrices, which is claimed to be as rapid and economical a reproduction method as in stereotyping.

The dies, or rubber plates, which are practically 3/32 in. thick, are produced as follows: The color lines are pulled from the original form and after being proofed are thrown close together and vulcanized in a compact form. The elements in the molded plate are then cut apart and positioned on a fibre draw sheet (packing board or press board) slightly wider than the advertisement upon a small makeready cylinder which is the same circumference as the printing cylinder upon the press. The rubber sections are mounted upon gray felt packing pieces a little larger in area than the rubber section to which it is cemented. This provides a flange around the rubber section which is then placed in register upon the fibre board and fastened around all four edges with gummed paper tape. Mr. Watkins says his method for positioning the rubber sections for registration with the black portions of the advertisement is accurate and fast and that any pressman can master it.

The fibre board draw sheet is next removed from the makeup cylinder and clamped upon the color unit printing cylinder. The color cylinder which now bears the maderady rubber die draw sheet is now turned to registration position and the driving gear slipped into position. All this is accomplished before the black forms come to the press.

The production of color upon flat-bed newspaper presses does not require the change of adjustment or web lead and does not cut the page or speed capacity of the press.

The unit as installed by Mr. Watkins upon the particular type of press shown in the halftone illustration provides for color on one or all of the lower deck forms. An additional unit, however, may be placed on the infeed cylinder to cover the upper deck forms.



View showing color printing unit as applied to flat-bed newspaper printing press by Ed Watkins, in the plant of the Monrovia (Calif.) News-Post. Mr. Watkins is inventor of the unit. The color unit utilizes rubber dies or plates produced by the conventional rubber stamp-making process. The rubber-plate sections are cemented to a fibre draw sheet which is clamped upon the printing cylinder.

New Supply Company

The Eastern Newspaper Supply announces its entrance into the stereotype supply field, with Edgar A. Mills, jr. as General Sales Manager. Mr. Mills is a member of Stereotypers' Union No. 1. He has had considerable experience at the trade, and is well known among stereotyping executives. A general line of stereotyping supplies will be carried.

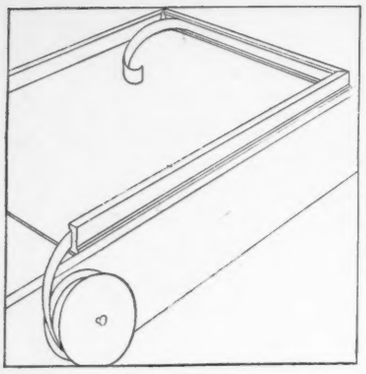


Fig. 1.—View of No-String Galley which looks like any ordinary galley except that its side walls have been recessed to accommodate the thickness of ½ in. white gummed linen tape. The tape is unwound as needed.

No String Ty-Up Galley

STRING. Yards and yards of it! For years and years it has been commonly accepted as the proper thing for holding together the printing elements in book pages and other blocks of type matter which must be handled several times after the compositor has finished putting together a page of type until it has been placed in a chase on the makeup man's stone. String for holding together the printing elements in pages has its virtues but it has a great weakness, too—its application is time-consuming. The salvage of string which is to be used again also is a wasteful operation.

The time taken up in the use of string caused Larry Costigan, a printer associated with Biddle Press Company in Philadelphia to develop a substitute for string which would eliminate the operation of winding string about type pages, when ready for proofing, taking it off in many instances for corrections, winding it around again for final proof, and, to be taken off again before the lock-up. Mr. Costigan's substitute consists of a special galley and a gummed binder approximately ½ in. wide. The tape is furnished in rolls. A roll may be mounted on a special bracket in front of and just under the compositor's work top where the free end of the tape may be unrolled and led into a special galley on the work top. The galleys conform in all respects to the ones used in any printing plant, except that the inside walls are recessed to accommodate the width and thickness of the tape.

When the compositor first starts a job of composition, the tape is unwound from the roll and inserted into the grooves in one side and the head of the galley side walls, the free end being permitted to lie idle at the head of the space to be occupied by the page or other type matter which is to be assembled. The patented recessed side and end wall of the galley holds the binder away from the job or page being assembled so it will not interfere with the type elements.

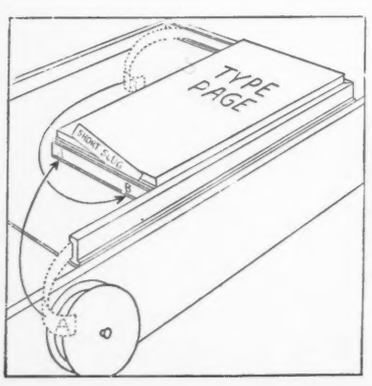


Fig. 2.—Here the compositor has finished assembling a page of type in the No-String Galley. He places two slugs at the foot of the page and proceeds to draw enough tape from the roll to go around the page with overlapping ends.

After the work has been finished, the compositor places two 6-point slugs at the foot of the page. The free end of the tape is then pulled (as it will draw freely through the grooves in the galley walls). When enough binder has been drawn from the roll to bind the entire page with overlapping ends, the fabric is severed from the roll, and the end is moistened and pressed down to complete the band around the entire page. One or two leads are now inserted between the full-width slugs at the foot of the page to tighten the tape binder and to permit subsequent withdrawal of the short leads to facilitate the making of corrections.

It is intended by Mr. Costigan that the tape shall remain permanently around the page until it is ready to be thrown into the melting pot or to be distributed in case the page was composed from foundry type. Forms can be locked in the chase with the tape around each page. The pages can be removed from the form after a press run and placed on storage galleys in the usual manner. Owing to the insertion of the short lead at the foot of the page, corrections can be made at any time when taken from storage without disturbing the original binder.

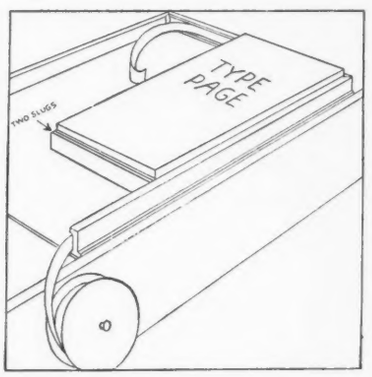


Fig. 3.—The compositor having drawn end B sufficiently to go around the balance of the page, cuts off the tape at A. The tape is then drawn around the page and end B is moistened and pressed down to seal the tape binding. After these operations, one or two short leads are inserted between the two foot slugs (shown in Fig. 2) so as to tighten the binding and to provide a means for loosening the type matter by withdrawing the short leads when it is desired to make corrections.

Many of those who have had an opportunity to study the Costigan No-String Galley pronounce it the greatest invention in composing room practice since the advent of line-casting machines.

Bauer Cartoon Type

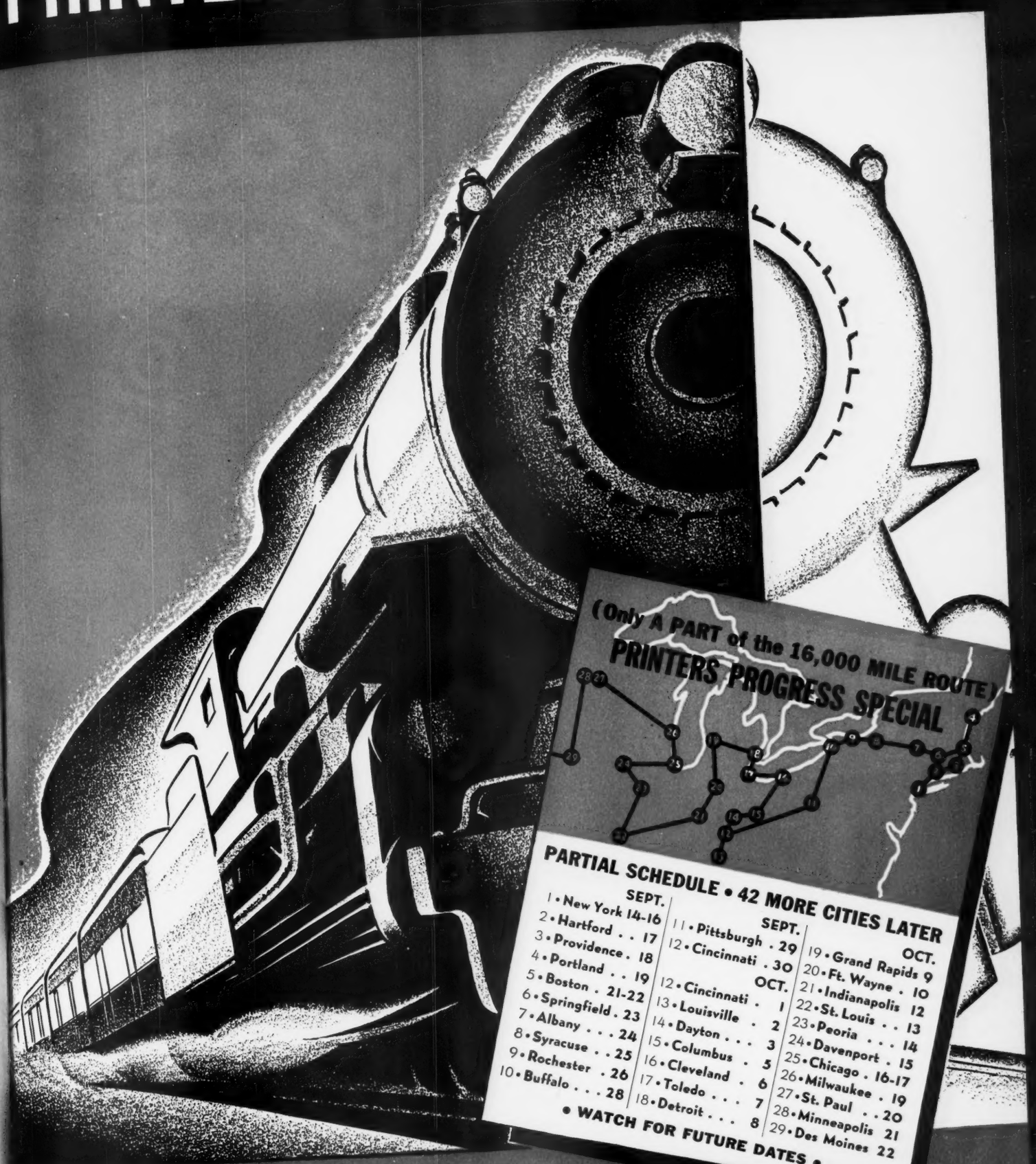
Announcement has been made by the Bauer Type Foundry, Inc., of a new type face entitled "Cartoon." The makers state the Cartoon series was designed for economy and variety in modern technique and provides freedom of handlettering without typographic discord. Can be set in the composing stick with minimum of spacing and leading.

DISPLAY

DISPLAY

The Cartoon type series is supplied in Light Face in sizes from 8 pt. to 36 pt. inclusive. The Bold Face is supplied in sizes from 8 pt. to 48 pt. inclusive. Detailed folders will be sent upon application to the Bauer Type Foundry.

PRINTERS' PROGRESS SPECIAL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5 • Boston . 21-22
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10 • Buffalo . . . 28
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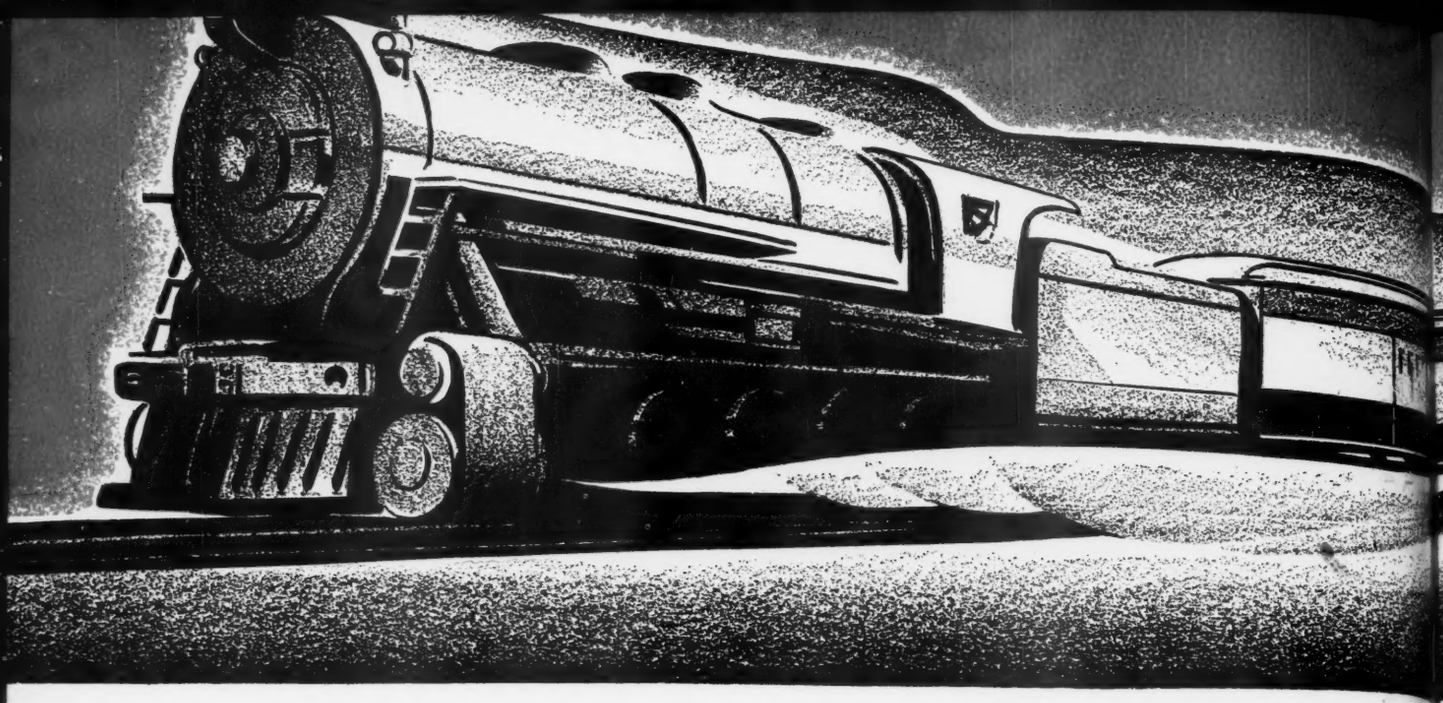
• WATCH FOR FUTURE DATES •

is coming your way . . .



. . . bringing you the new

ATF 17x22 KELLY

. . . the press with the high QPA*

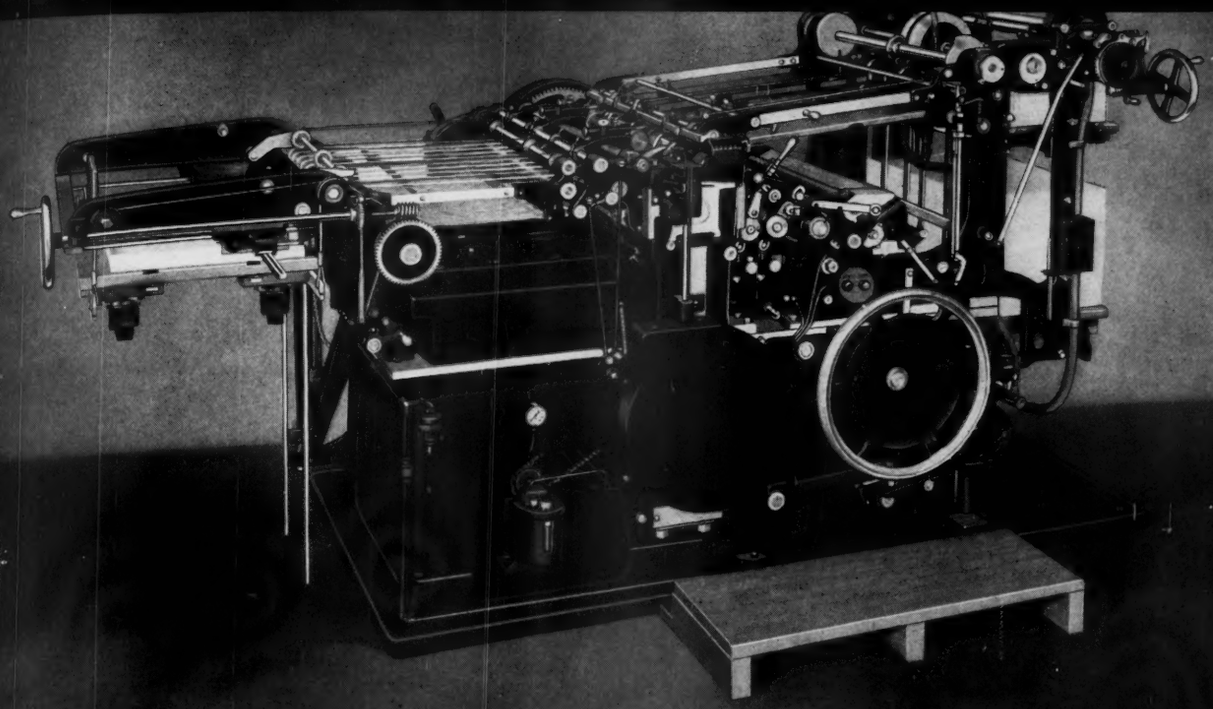
● Here they come! TWO famous "firsts" in modern printing history! Printers Progress Special, an entire railroad train converted into a rolling demonstration of latest printing equipment, all under power. And . . . the New ATF 17x22 Kelly Press . . . a big feature of this dramatic display!

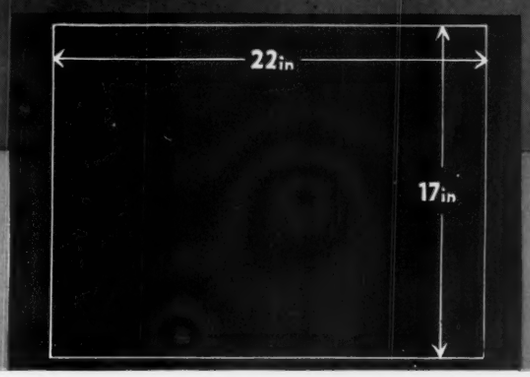
● From one end of the country to the other, this show will travel 16,000 miles, visiting your city, or one near you. You will see in operation the new models, new methods and money-saving devices that the American Type Founders and leading co-operating suppliers have assembled. Never before has such an interesting exhibit been brought to your door. And never before have you seen such a train . . . ablaze with colors . . . especially built to bring you a complete graphic arts exhibition. Watch for it! See it!

● Here is the newest ATF-Kelly! A high-speed press with a dozen advanced features for a high Q PA*. The many improvements for speedy make-ready, accuracy of register, quality of impression, ample distribution and full 17x22 coverage with bleed (see next page) . . . are part of the story. But the New ATF 17x22 Kelly also has many time- and labor-saving ideas built into it. It is a fine product of today's designers and engineers of letterpress equipment. And it is priced LOW!

● You will also see the new ATF Non-Offset Gun, and ATF Composing Room Saw in operation . . . a whole trainload of the newest stitchers, perforators, cutters . . . the last word in composing room equipment, foundry type, miscellaneous supplies . . . hundreds of ideas for increasing your profits. Admission by invitation only . . . from your local ATF Branch.

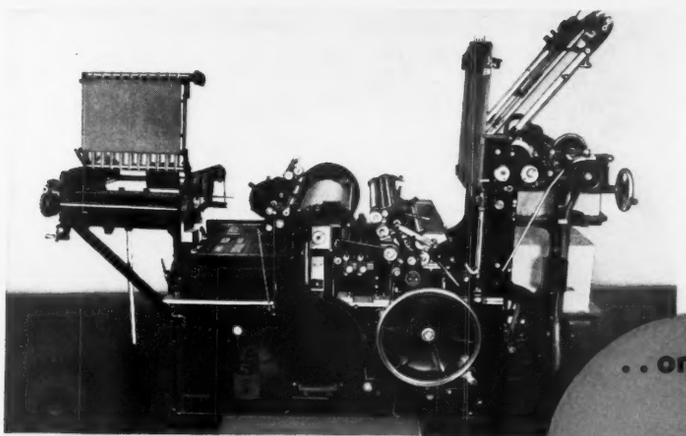
*QPA means Quality Production Average . . . the average hourly production of well-printed sheets you can expect *and get* from a press. QPA is the true measure of press profit possibilities



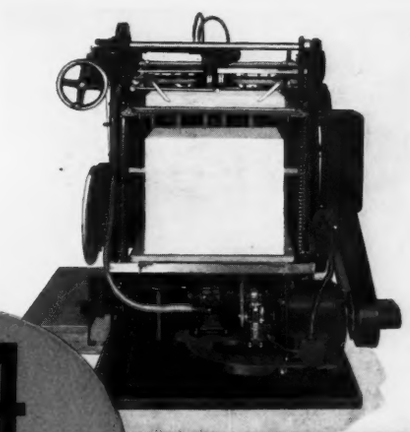


FULL 17x22 COVERAGE

How much of your work is in multiples of 8½x11? The form rollers of the new ATF 17x22 Kelly cover a full 17x22 form with bleed before reversing. Can you see the economy and profit in this big feature?

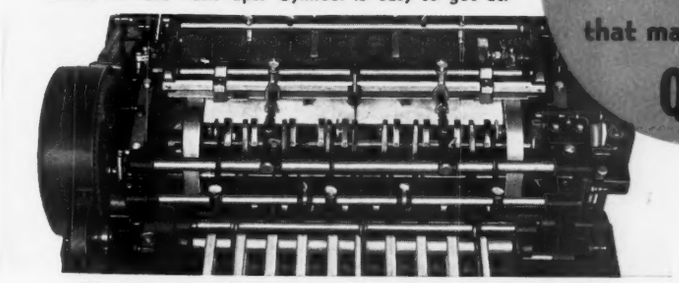


All Parts Accessible: Swing-back delivery, easy access to all parts of form. Fountain roller can be removed for fast wash-ups. Cylinder is easy to get at.

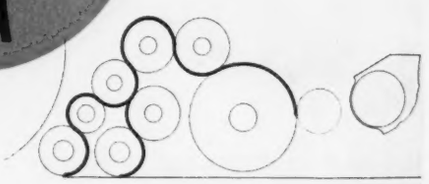


Improved Reloading: Extra feed table allows reloading while press is running. Holds 24" of stock.

..only **4** of the many factors that make for high **QPA**



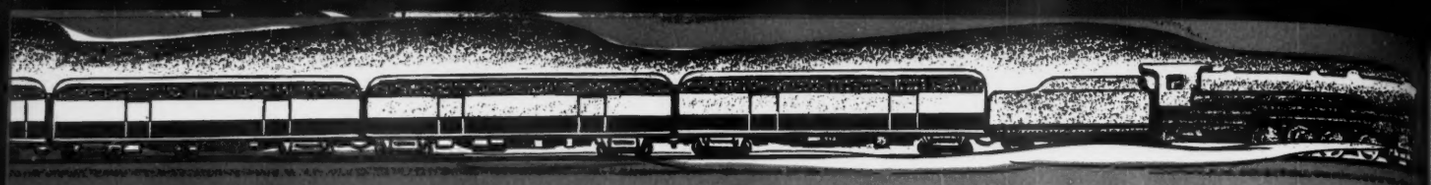
Hairline Register: Unfailing tumbler gripper action gives you perfect register regardless of speed and variations of speed



Ample, Worked-up Ink Distribution: New pyramid system has separate vibrator for each form roller. No "robbing" or "borrowing" from another roller.

THESE IMPROVEMENTS MEAN MORE PRODUCTIVE PAYROLL HOURS IN YOUR PRESSROOM

. . . and



. . . a trainload of the newest DEVELOPMENTS in PRINTERS' EQUIPMENT

• The Printers Progress Special is packed to the guards with the latest equipment of the progressive manufacturers listed below. Each display will show you, right on the spot, how you can cut costs, increase your production and improve quality . . . how you can save time and money. You will be literally surrounded with ideas that can help you in your business. The Printers Progress Special is a big traveling graphic arts show. You don't want to miss it. Watch for the date in your city! Admission by card only. Here are the suppliers who helped make it possible:

Acme Staple Company
CAMDEN, N. J.

American Numbering Mach. Co.
BROOKLYN, N. Y.

Binks Manufacturing Co.
CHICAGO, ILL.

Boston Wire Stitcher Co.
EAST GREENWICH, R. I.

Challenge Machinery Co.
GRAND HAVEN, MICH.

Chandler & Price Company
CLEVELAND, OHIO

Craig Sales Corporation
NEW YORK, N. Y.

Henry Disston & Sons, Inc.
PHILADELPHIA, PA.

Hamilton Manufacturing Co.
TWO RIVERS, WIS.

Kimble Electric Company
CHICAGO, ILL.

Geo. W. Prentiss Company
HOLYOKE, MASS.

Printing Machinery Co.
CINCINNATI, OHIO

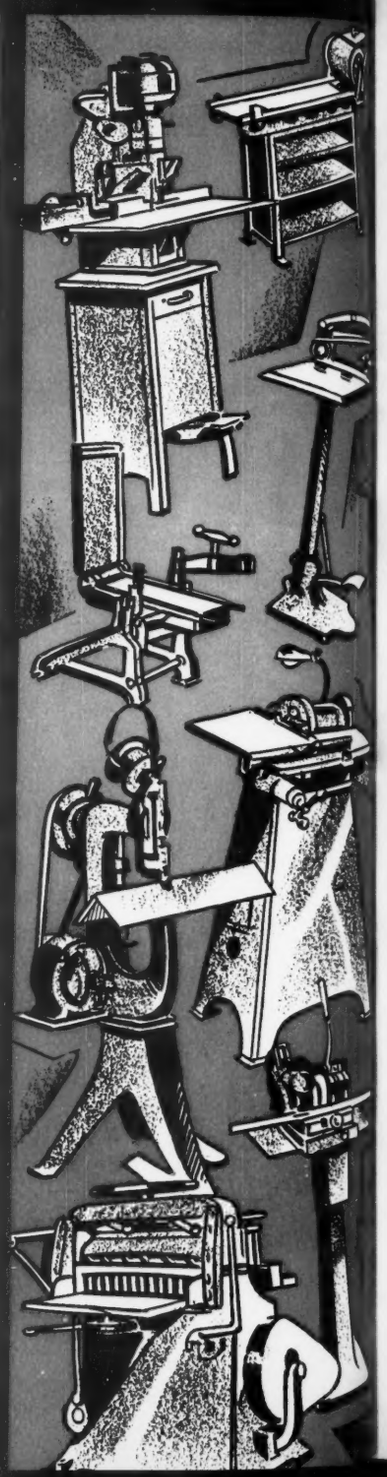
F. P. Rosback Company
BENTON HARBOR, MICH.

H. B. Rouse & Company
CHICAGO, ILL.

Stereotype Equipment Co.
CHICAGO, ILL.

Vandercook & Sons, Inc.
CHICAGO, ILL.

Wetter Numbering Mach. Co.
BROOKLYN, N. Y.



AMERICAN TYPE FOUNDERS

Branches and Selling Agents in Twenty-five Cities

Types used: Raleigh Gothic Condensed, Bernhard Gothics, Franklin Gothics and Kaufmann Bold Printed on Kelly Presses

Cooperating Exhibitors

Printers' Progress Special

Acme Staple Company	Kimble Electric Company
American Numbering Machine Co.	The Edward L. Megill Company
Binks Manufacturing Company	George W. Prentiss Company
Boston Wire Stitcher Company	Printing Machinery Company
Challenge Machinery Company	F. B. Redington Company
Chandler & Price Company	F. B. Rosback Company
Craig Sales Corporation	H. B. Rouse & Company
Henry Disston & Sons, Inc.	Stereotype Equipment Co.
Hamilton Manufacturing Co.	Vandercook & Sons, Inc.
Justrite Manufacturing Co.	Wetter Numbering Machine Co.

Train

Housing Mechanical Exhibit Will Cover 16,000 Mile Schedule

By Staff Writer

PRINTING plant mechanical and production executives generally will be interested in the appearance of a three-car Printers' Progress Special train in which are housed various kinds of production equipment used in the Graphic Arts Industries. The train is scheduled for its first appearance at the Grand Central Terminal, New York, on September 14, 15 and 16 inclusive.

Sixteen thousand miles will be covered by the train which is scheduled to stop one or more days in 71 cities throughout the country on a 100-day period ending Friday, December 13.

Red, white and blue railroad cars, with aluminum tops, will house a practical printing plant with all accessories demonstrating under power the case history of a print job from manuscript to finished article, under auspice of the American Type Founders and cooperating companies.

First 30-Day Schedule

Printers' Progress Special

September 14-15-16	New York City
September 17	Hartford
September 18	Providence
September 19	Portland
September 21-22	Boston
September 23	Springfield
September 24	Albany
September 25	Syracuse
September 26	Rochester
September 28	Buffalo
September 29	Pittsburgh
September 30-October 1	Cincinnati
October 2	Louisville
October 3	Dayton
October 5	Columbus
October 6	Cleveland
October 7	Toledo
October 8	Detroit
October 9	Grand Rapids
October 10	Fort Wayne
October 12	Indianapolis
October 13	St. Louis
October 14	Peoria
October 15	Davenport
October 16-17	Chicago

(Railroad stations and Western and Southern routes announced later.)

The special train will be made up of three exhibition cars, surgically clean and modernistically decorated with photomontage murals, and a private car named in honor of the printers' Craftsmen's Clubs. The private car will be used as offices and as living quarters for the crew.

The exhibition train will enable printers, publishers, teachers and the trade to see late model presses and accessories in actual operation under the direction of technical experts. The new 17 in. by 22 in. Kelly press will be shown in a small-scale amphitheatre.

Vivid-colored heralds, remote-control microphone, professional photo and movie lighting equipment, intercar and long distance telephone service, are some of the time-saving devices carried as accessories.

High-light bookings of the Printers' Progress Special besides metropolitan key cities are the Great Lakes Exposition, Cleveland; Dallas (Texas) Centennial; Fort Worth Last Frontier Exposition and the San Diego Fair; Direct Mail Advertising Convention, Cincinnati, and the United Typothetae, Cincinnati.

Every minute of the running and exhibition time has been clocked in advance and the schedule will be followed rigidly. The New York Central Railroad acted as diplomatic agent in clearing the tracks for the 16,000-mile trek. "Going value" of the Printers' Progress Special tour is $150,000.

Admission to the train will be by ticket invitation only. It is stated that exhibit hours usually will be from 10 a. m. to 9 p. m. The train will be parked in railroad stations where it will be conveniently reached by invited guests without the necessity for traversing switch yards and trackage.

New Intertype Hand Book

The Intertype Corporation has issued another edition of its hand book, which is sub-titled "A Brief Manual of Instruction for Users of the Intertype," containing condensed information on such subjects as machine actions, installing the machine, making operating changes, adjustments, maintenance routine, possible troubles and remedies, facts concerning matrices, spacebands, magazines, molds, and miscellaneous information. The new book contains 96 pages and is neatly bound in board covers.

Buys Largest Camera

A camera weighing 7,560 pounds, and said to be the largest ever built, was recently delivered to the Division of Engineering and Printing, in the Department of the Interior Building, Washington, D. C. The "overhead" camera, designed for making photostats of maps, was constructed for the Government by a Chicago firm and according to General Agent E. S. Buckmaster of Railway Express Agency, who had charge of shipping the delicate, though weighty apparatus, it was expressed in 24 pieces having a total weight of 7,560 pounds.

Long Appoints Hoch

Clark R. Long, President of the International Association of Printing House Craftsmen, has announced the appointment of Fred W. Hoch, of New York, as Educational Commissioner to succeed DeWitt A. Patterson, of Chicago, who was elected Second Vice-President at the Minneapolis Convention.

Mr. Hoch is one of the best known, best informed and frequently consulted authorities on practical printing in the United States. He is a prominent member of the New York Club of Printing House Craftsmen.

A Story—

About a Boy's Finger

NOT a very probable tale perhaps, but it has been used for generations as a symbol. You have heard it—about the boy in Holland who found a hole in the dike and held back the streaming waters with his finger.

The moral is that the finger-sized stream would have swelled to a torrent before morning—that the dike would have crumbled and the countryside would have been inundated.

Troubles multiply just this way when one small thing goes wrong in newspaper production. Countless details must be right to thwart the tiny streams of trouble that would swell prodigiously. Among these small things must be counted the dry mat that makes stereotyping swift and efficient or a possible source of agonizing delays.

For dependable stereotyping, rely on Certified Mats, made in the U.S.A.

CERTIFIED DRY MAT CORPORATION

338 MADISON AVE. NEW YORK, N. Y.

Certified DRY MATS

Equipment

Pressman's Lockup Cabinet

The new Challenge Pressman's Lockup Cabinet, to be introduced on the Printers' Progress Special train, has been designed to contain everything the pressman needs to lock up any form on the bed of a cylinder press.

Finished in olive green, the Challenge Pressman's Lockup all-steel Cabinet has two compartments with large openings at the sides which provide easy access for storing and removing clean cloth wipers and other materials. The working surface and upper shelf are masonite-covered to deaden noise and prevent scratches.

This new Challenge outfit contains, in addition to the cabinet, two pieces each of 2 x 30, 3 x 30, 4 x 30 5 x 30, 6 x 30, 8 x 30, and 10 x 30 Labor-Saving Iron Furniture; two pieces each of 20 x 40, 40 x 40, 60 x 40, 80 x 40, 100 x 40, and 120 x 40 Mammoth Iron Furniture; three 4 ½ in. Challenge Hi-Speed Quoins; one Challenge Hi-Speed Quoin Key, and one Challenge Pressman's Right Angle Hi-Speed Quoin Key.

The new Challenge Pressman's Lockup Cabinet measures 16½ in. wide, 25¼ in. long, and 33¼ in. high. The furniture extends just enough beyond the slanting shelves to make it easy to lift out. With this equipment, the pressman can lock the form against the back edge of the bed and secure it by means of the regular bed clamps; or he can lock against the bed clamps, first securing the clamps and then use the Hi-Speed Quoins for locking back of the chase.

View of Challenge Pressman's Self-Contained Lockup Cabinet.

Announces Four-Magazine Mixers

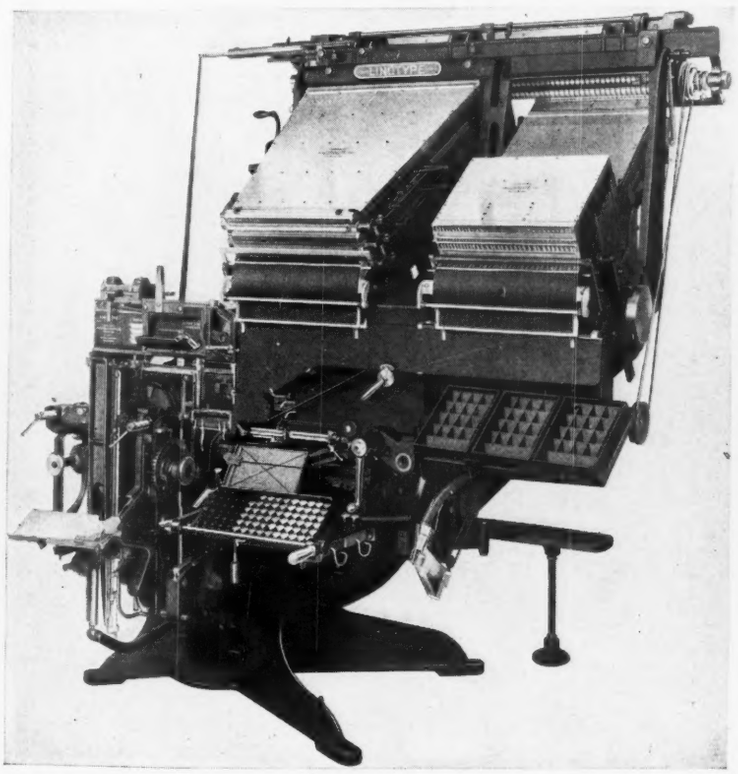
The Mergenthaler Linotype Company announces Models 29 and 30 machines which incorporate the Blue Streak features and, in addition, apply the "mixing" idea to four main magazines or to four main and four auxiliary magazines. The Model 29 is a four-magazine mixer, and the Model 30 is a four-main and a four-auxiliary magazine mixer. These new mixers are intended to be used as newspaper headletter machines, since the operator may shift from one head face to another without waiting for the matrices to be distributed and for advertising and job work involving quick shifts from one face to another, as well as for the setting of composition with several faces in the same line.

The magazines are moved up or down, to bring any pair into operative position, by the same one-turn shift as employed on the Blue Streak single-distributor models. The shift from one magazine and face to another, for mixing, is brought about by the touching of a mixer key or keys located beside the keyboard. On the Model 29 there is one of these keys; on the Model 30 there are two—one for main and one for auxiliary magazines.

The two magazines in operating position remain stationary. The only moving part is the lower assembler front which pivots back and forth automatically as controlled by the mixing key, to allow matrices to assemble from either magazine as desired.

Models 29 and 30 will be available as straight text machines (using 90 channel magazines) or as straight display machines (72 channels) or as Two-in-One machines (using both 90 and 72 channel magazines).

There are two distributor boxes and distributor bars on each model. As the magazines shift to bring a different pair into operative position, a single bridge projection automatically shifts with them. In addition, there is an automatic font distinguisher, which prevents stray matrices getting into the wrong magazines. The same bridge-notched matrices used on former Linotype mixers can be used on these machines.



View of Mergenthaler new Model 30 four-magazine mixer. A combination shift is employed to change magazines. Any pair of magazines may be brought into operating position by one turn of a crank at the right of and above the keyboard, and matrices for mixing in the same line may be drawn from either magazine of the pair in operating position by first depressing a shift key. The two magazines in operating position remain stationary, the switch from one to the other being effected by movement of the lower assembler front which pivots automatically when the key is depressed. Two boxes and two bars with conventional conveyor screws compose the distributing mechanism.

Where it is desired to use the regular font slot in single-distributor matrices for matrix selection (without cutting bridge notches) a special bridge projection can be furnished to correspond to the width of the font slot. This same bridge projection can be used also for matrices with bridge notches. This makes possible the use of existing matrix equipment from both single-distributor and mixer machines.

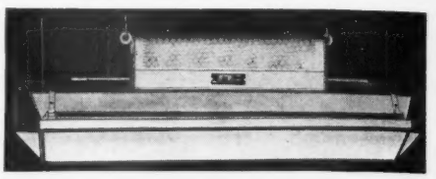
The new mixers carry standard Linolite magazines interchangeable with those of other Linotypes. Magazines may be half, three-quarter or full length; and all magazines are removable from the front.

"Combination" Lighting Unit

A cool, color-corrected light, said to be unusually well adapted to difficult seeing tasks, is obtained by combining mercury vapor light and incandescent light in a single unit. In such a combination, the blue-green effect characteristic of mercury vapor lamps alone is balanced by the reds and yellows (in which the incandescent light is rich.) This combination is said to produce a pleasing and sight-saving daylight effect. Because this balance is obtained by *adding* light, the daylight effect is obtained without loss of efficiency.

In the new "combination" lighting unit just introduced by the General Electric Vapor Lamp Company, the mercury vapor light source is a straight 33-in. Cooper-Hewitt tube, 1-in. diam., mounted horizontally beneath a new designed reflector of Alzac aluminum. The incandescent light sources are four 150-watt Mazda lamps, located diagonally in a horizontal plane above the mercury tube.

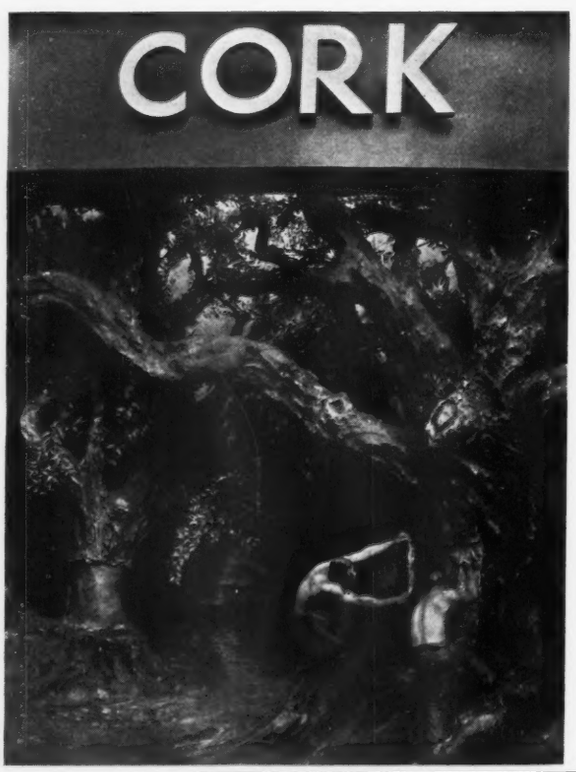
A feature of the new lamp from the sight-saving standpoint is its large light-source area and low intrinsic brightness. Due to the use of the long Cooper-Hewitt tube and spaced incandescent lamps, a total output of 11,200 lumens is evenly distributed through the 650 sq. ins. of diffusing glass which forms an angular channel beneath the lamps. Even when the light source is directly within the line of vision, there is no glaring or blinding effect. When work is being done on bright metal objects or other "shiny" surfaces, there are no annoyingly bright points of reflected glare. A correctly spaced room layout of these lamps is said to provide practically shadowless lighting, maintaining the desired illumination level uniformly throughout the working area without excessive illumination at any point.



View of General Electric Vapor Lamp Company's Combination Lighting Unit. The new fixture which emits a combination of balanced light rays obtained by combining mercury vapor and incandescent light sources in one unit provides a large light-source area with low intrinsic brightness. The fixture is suitable for use in areas where work is being done on bright metal objects such as type, slugs and strip rule, and for other operations in the printing plant.

The mercury vapor tube in the new lamp supplies as much light at 275 watts as former tubes requiring 350 watts. The lamp is furnished for operation on 110-volt or 220-volt a.c. systems, with a high overall power factor. Externally the lamp has a smooth aluminum

(*Continued on Page 36*)

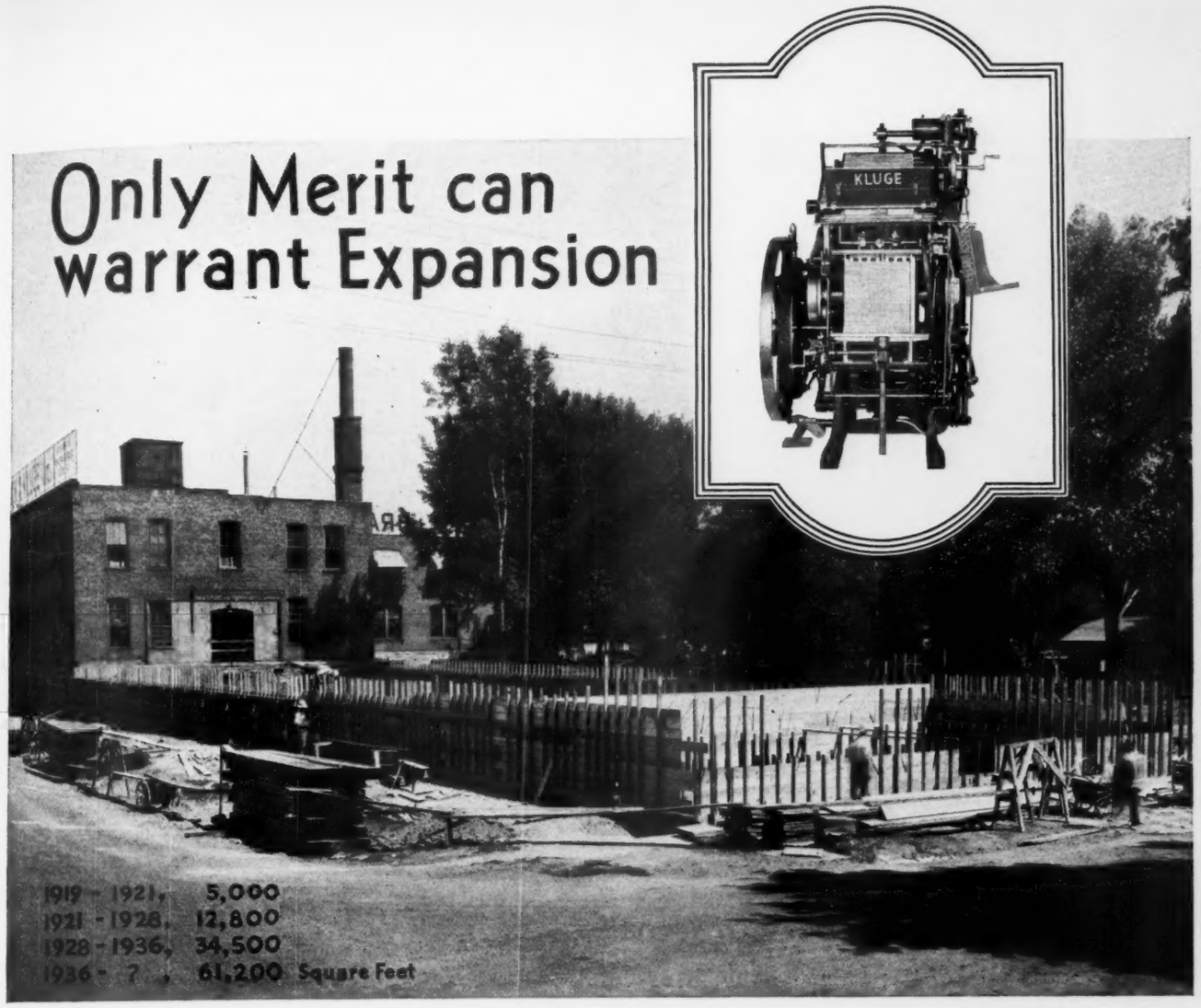


FOR PERFECTION IN MOLDING

USE THE BLANKET THAT IS BUILT FOR YOUR REQUIREMENTS

APS offers seven cork molding blankets, of different densities and thicknesses to meet the specific problems of each office. There is a blanket that will meet your purpose exactly. Write for prices.

AMERICAN PUBLISHERS SUPPLY
WEST LYNN, MASSACHUSETTS



THE KLUGE AUTOMATIC PRESS

is largely responsible for this increase in our factory space. The satisfaction it is giving printers all over the country has been reflected in a constantly increasing demand for this efficient profitmaker. ¶ While the above figures speak for themselves, it should be added that during the last twelve months our 34,500 square feet of factory space has been stretched to the utmost and utilized on a 24-hour basis. ¶ The Kluge Automatic is built by pioneers in the automatic platen press field and represents the culmination of many years of experience and experiment. There is no better press of its size on the market and its perfected distribution, rigid impression and speed combine to produce first-class work at the lowest possible cost. ¶ Our nearest branch will gladly demonstrate these facts for you—on your own job, if you wish.

Brandtjen & Kluge, Inc., Mfrs., St. Paul, Minn.

BRANCHES WITH OPERATING EXHIBITS:

NEW YORK . . . . . 77 White Street
PHILADELPHIA . . 253 N. 12th Street
BOSTON . . . . . 27 Doane Street
DETROIT . . . . . 1051 First Street
CHICAGO . . . 106 W. Harrison Street
ST. LOUIS . . . . . 2226 Olive Street
DALLAS . . . . . 217 Browder Street
ATLANTA . . 150 Forsyth Street, S. W.
SAN FRANCISCO . . 451 Sansome Street
LOS ANGELES . . 1232 S. Maple Ave.

This tough metal shows great etching SPEED

THE etcher, shown above, is surprised to find that a plate of tough A-Z Alloy, actually etches deeper and clearer than ordinary engraver's zinc. He has always thought that hard metals were slow to etch.

A-Z Alloy is the outstanding exception to this well-known engraver's rule. The etcher in the above photograph has removed two plates from the tub and is measuring the etched depth of each, one is A-Z Alloy, the other is regular engraver's zinc. After ten minutes of normal etching, the A-Z Alloy cut showed a much greater etched depth. Moreover, the surface of the A-Z Alloy cut was bright and clean and smooth.

Leading metal distributors in the United States, Canada and England now carry stocks of this metal.

A-Z ELECTRIC ALLOY

The Tough Brother of the Well Known Zomo Electric Zinc

Both Made by the Electric Induction Process

Patent Papers:

Printed copies of patents are furnished by the United States Patent Office at 10 cents each. Address the Commissioner of Patents, Washington, D.C., and enclose 10 cents for each patent paper wanted.

Patents

Included Are Means for Drying Ink on Rotary Press Web

JULY-AUGUST

Composing Machinery:

2,048,021. APPARATUS FOR CASTING QUADS OR SPACERS. Lester A. Neumann, Chicago, Ill., assignor to M & L Typesetting & Electrotyping Company, Chicago, Ill., a corporation of Illinois. Original application October 6, 1934, Serial No. 747,158. Divided and this application August 15, 1935, Serial No. 36,268. 3 Claims. (Cl. 199—80.)

1. In combination with a typecasting machine having an elongated mold and a matrix carrier movable longitudinally relative thereto, an attachment for the matrix carrier comprising a matrix plate adapted to close one end of the mold and having a core of the same length as the mold, and means for imparting longitudinal reciprocable movement of the matrix plate and core relative to the mold for substantially the full length of the latter.

2,048,664. SLUG CASTING MOLD. Anthony J. Stouges, Queens Village, N. Y., assignor to Mergenthaler Linotype Company, a corporation of New York. Application November 2, 1935, Serial No. 47,949. 10 Claims. (Cl. 199—55.)

1. In or for a slug casting machine, a mold comprising side and end walls defining between them a mold cavity, and a core section supported within the cavity, the core section having a groove along a side face.

2,049,557. PHOTO COMPOSING MACHINE. Edward Eugene Cooper and Albert Theodore Troedel, Port Melbourne, Australia. Application February 12, 1935, Serial No. 6,210. In Australia December 21, 1934. 4 Claims. (Cl. 95—73.)

1. In a photo composing machine having a trolley adapted to move transversely therein, the provision of a stout girder slidably supported on the trolley, a bracket suspended from each end of the girder, a chase carrier in a bracket, a chase in the carrier and a negative holder in the chase, a table bearing a sensitized plate under each negative holder, means for moving the girder and the suspended parts longitudinally over the trolley and with the trolley transversely step by step and means for printing the images from the negatives on to the plates.

2,050,222. LINE CASTING MACHINE. Herman R. Freund, Brooklyn, and Ransom H. Turner, Little Neck, N. Y., assignors to Intertype Corporation, Brooklyn, N. Y., a corporation of New York. Application November 16, 1935, Serial No. 50,222. In Germany August 24, 1935. 12 Claims. (Cl. 199—47.)

1. In a line-casting machine, the combination of a slug-casting mold having a casting slot defined by opposed longitudinal walls of a given depth at least a portion of one wall of which is movable relatively toward and from the opposed wall and end walls of less depth than the longitudinal walls, elements having portions adapted to project into the mold slot to reduce the depth thereof and to correspondingly reduce the depth of the mold beyond the end walls of the slot, and means for moving the movable portion of the wall of the mold against the projecting portions of the elements after they have been introduced between the walls of the mold and against the end walls thereof.

Feeding, Folding, Delivery:

2,049,791. WEB SPLICING DEVICE. Henry A. Wise Wood, New York, N. Y., assignor to Wood Newspaper Machinery Corporation, New York, N. Y., a corporation of Virginia. Application August 29, 1932, Serial No. 630,973. Renewed June 19, 1935. 3 Claims. (Cl. 242—58.)

2. In a web splicing device, the combination with a reel adapted to carry a running roll and a fresh roll, of a frame adapted to be moved from operative to inoperative position, a web-pressing means movably mounted on the frame, a solenoid, means whereby when the solenoid is energized, the web-pressing means will be released and moved in a direction toward the web and the fresh roll, a second solenoid, a web-severing means oscillatably mounted and spring actuated, means for holding the severing means in inoperative position, and means operated by the second solenoid for releasing the severing means.

2,049,513. FEEDING MECHANISM. Claude L. Post, Chicago, Ill. Application July 23, 1934, Serial No. 736,537. 7 Claims. (Cl. 271—44.)

1. In a device for feeding envelopes, the combination of a magazine for containing a plurality of superposed envelopes, a plurality of rotatable cooperating feed rollers and feed segments adjacent the magazine, means for engaging the flap of an envelope in the magazine to unfold and move the flap into a position between the rollers and segments to be engaged and fed thereby, and means outside the segments rotatable therewith and spaced circumferentially and rearwardly with respect thereto and engageable with the flap for lifting the extreme outer end portions thereof.

2,048,767. AUTOMATIC WEB SPLICING MACHINE. Henry A. Wise Wood, New York, N. Y., assignor to Wood Newspaper Machinery Corporation, New York, N. Y., a corporation of Virginia. Application February 5, 1932, Serial No. 591,077. 59 Claims. (Cl. 242—58.)

1. In a web splicing mechanism, the combination of a roll supporting reel, a frame, web pressing means carried by the frame, a shaft driven by a printing press, a variable speed transmission connected with the shaft to be driven thereby, a shaft driven by the transmission, spindles for web rolls mounted on the reel, a gear loose on each spindle, a gear driven by the transmission driven shaft, and meshing with all of the spindle gears, and means for clutching each spindle gear to its spindle to drive its roll at its center when that roll is brought by the rotation of the reel into position nearly ready for splicing and the frame is moved to bring the web pressing means into operative position.

2,048,766. ADJUSTABLE BUTT SWITCH FOR WEB PASTING DEVICES. Henry A. Wise Wood, New York, N. Y., assignor to Wood Newspaper Machinery Corporation, New York, N. Y., a corporation of Virginia. Application June 16, 1931, Serial No. 544,762. Renewed December 3, 1935. 10 Claims. (Cl. 200—52.)

1. In a device, the combination of a reel having a spider for supporting a web roll, a shaft adapted to swing, a lever fixed to the shaft and having a shoe for engaging the web roll, yielding means for turning the lever toward the web roll, a switch box, and a switch arm fixed to the lever and turning with it and arranged to control the operation of the switch.

2,048,765. PAPER THROW-OUT DEVICE. Henry A. Wise Wood, New York, N. Y., assignor to Wood Newspaper Machinery Corporation, New York, N. Y., a corporation of Virginia. Application February 25, 1931, Serial No. 518,044. Renewed September 6, 1933. 19 Claims. (Cl. 271—63.)

1. In a printing machine, the combination with a folder, its delivery means, and a pasting device for attaching the running web to a new web roll, of means for displacing the papers on the delivery device which are made imperfect by the pasting operation.

Platemaking:

2,048,841. STEREOTYPE BLANKET. John J. Coyne, Forest Hills, N. Y. Application October 8, 1934, Serial No. 747,302. 5 Claims. (Cl. 154—54.5.)

1. A stereotype blanket comprising a body consisting of a relatively thick sheet of cork, a substantially stiff backing consisting of a relatively thin fiber sheet, and an intermediate layer of resilient material for absorbing the distortions of the cork body as the body is forced into uneven surfaces, the resilient layer adapted to return the cork body to its normal position, the body and layers of material secured together by an adhesive.

2,048,876. METHOD OF PREPARING PRINTING PLATES. Walter S. Marx, Jr., Port Washington, N. Y. Application October 10, 1933, Serial No. 692,921. 5 Claims. (Cl. 95—5.)

3. In the art of producing a photo-mechanical printing plate, those steps which consist in producing a paper halftone positive reproduction of a portion of the subject to be printed by the plate, retouching the halftone positive while it is dry, and superposing the dry halftone positive on a full line positive of another portion of the subject, the assembled positives corresponding to the entire subject.

2,048,964. PLANOGRAPHIC PRINTING PLATE. Henry C. Osborn, Cleveland, Ohio, assignor to Multigraph Company, Wilmington, Del., a corporation of Delaware. Application July 5, 1934, Serial No. 733,810. 7 Claims. (Cl. 101—401.1.)

1. A planographic printing plate comprising a non-metallic core and metallic facings on both sides of the core, the facings being coextensive with the core and cementitiously secured thereto to waterproof the sides thereof and the edges of the core exposed between the facings being substantially waterproofed.

2,049,012. APPARATUS FOR THE PRODUCTION OF ETCHED COPPER PRINTING CYLINDERS. Hermann Kindermann, Koniginhof, Czechoslovakia. Original application January 26, 1934, Serial No. 708,496. Divided and this application July 6, 1935, Serial No. 30,176. In Germany February 4, 1933. 1 Claim. (Cl. 101—33.)

Apparatus for carrying out the process by the aid of reprinting papers by the tympan or retouching process, including a copper roller, a reprinting roller arranged underneath the copper roller, forks for raising and lowering the reprinting roller, rails on which the reprinting roller is capable of being moved out thereon, and the rails being formed with apertures for the forks serving for raising and lowering of the reprinting roller.

2,050,829. STEREOTYPE PLATE SHAVING MACHINE. Curtis S. Crafts, Oak Park, Ill., assignor to The Goss Printing Press Company, Chicago, Ill., a corporation of Illinois. Application May 21, 1934, Serial No. 726,655. 5 Claims. (Cl. 90—26.)

5. A stereotype plate trimming machine including in combination a cylindrical plate supporting bed, a rotatable roughing cutter having a helical cutting edge concentric with the required finished interior of the plate, the edge cutting the entire width of the plate at one time, the cutter having only angular cutting movement about its own axis, and a finishing cutter rotating about the same axis in fixed relation to the roughing cutter blade, the cutters being spaced to act simultaneously on the plate.

2,050,993. METHOD OF JOINING PRINTING ELEMENTS. William C. Bush, Montreal, Quebec, Canada, assignor of twenty-five per cent to Joseph R. Mathers and fifteen per cent to Thomas Havill, both of Montreal, Quebec, Canada. Application January 4, 1935, Serial No. 412. 2 Claims. (Cl. 29—148.)

1. A method of joining a metal printing plate to a base of softer metal which comprises forming grooves in the under surface of the plate, forming projections on the upper surface of the base, assembling the plate on the base with the projections of the latter fitted in the grooves and then subjecting the assembly to pressure whereby the projections of the base are deformed to completely fill the grooves in the plate as the opposing surfaces of the plate and base are pressed together.

Printing Presses:

2,048,005. CYLINDER FOR PRINTING MACHINES. Albert J. Horton, White Plains, N. Y., assignor, by mesne assignments, to R. Hoe & Co., Inc., New York, N. Y., a corporation of New York. Application December 20, 1934, Serial No. 758,428. 12 Claims. (Cl. 101—375.)

1. In a cylinder structure, a cylindrical shell having a supporting member within same, the supporting member being formed integral with the shell and in the form of a longitudinally extending arch constituted by a central circumferential area of the shell and end portions each in the form of a truncated cone, and the shell having its ends overhanging the supporting member.

2,048,366. INKING MECHANISM FOR PRINTING MACHINES. Harry V. Ball, deceased, late of Bedford, Mass., by Lillian C. Ball, administratix, Bedford, Mass., assignor, by mesne assignments, to R. Hoe & Co., Inc., New York, N. Y., a corporation of New York. Application February 6, 1935, Serial No. 5,179. 5 Claims. (Cl.101—352.)

1. In a device, the combination of a frame, a form cylinder and an ink distributing cylinder rotatably supported on the frame, a socket horizontally and vertically adjustable relatively to the cylinders, a form roller rotatably supported by the socket, and indicating means connected to the socket whereby the diameter of rolls of various sizes may be ascertained and their operative positioning relatively to the cylinder accurately determined.

2,048,483. WEB PERFECTING ROTARY PRESS. Howard M. Barber, Pawcatuck, Conn., assignor to C. B. Cottrell & Sons Company, Westerly, R. I., a corporation of Delaware. Application July 27, 1935, Serial No. 33,493. 35 Claims. (Cl. 101—179.)

1. In a web perfecting rotary press, first and second multicolor printing units, first and second combined heating and cooling units located between the printing units, and means for leading the web through the units and delivering the web.

2,048,484. WEB PRINTING ROTARY PRESS. Howard M. Barber, Pawcatuck, Conn., assignor to C. B. Cottrell & Sons Company, Westerly, R. I., a corporation of Delaware. Application July 27, 1935, Serial No. 33,495. 3 Claims. (Cl. 101—178.)

1. In a multicolor rotary non-perfecting web printing press, a printing unit located at one end of the press and comprising an impression cylinder and form cylinders arranged around its side, a web supply roll located in line with the press, a combined heating and

(*Continued on Page 48*)

Reduce Your Dross Loss 40 to 50%

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Linotype Parts Corp., 1520 Georgia St., Los Angeles

J. H. Schroeter & Bro. Inc., 223 Central Ave. S. W., Atlanta, Ga.

Thos. F. Donahue, 200 Davis St., San Francisco

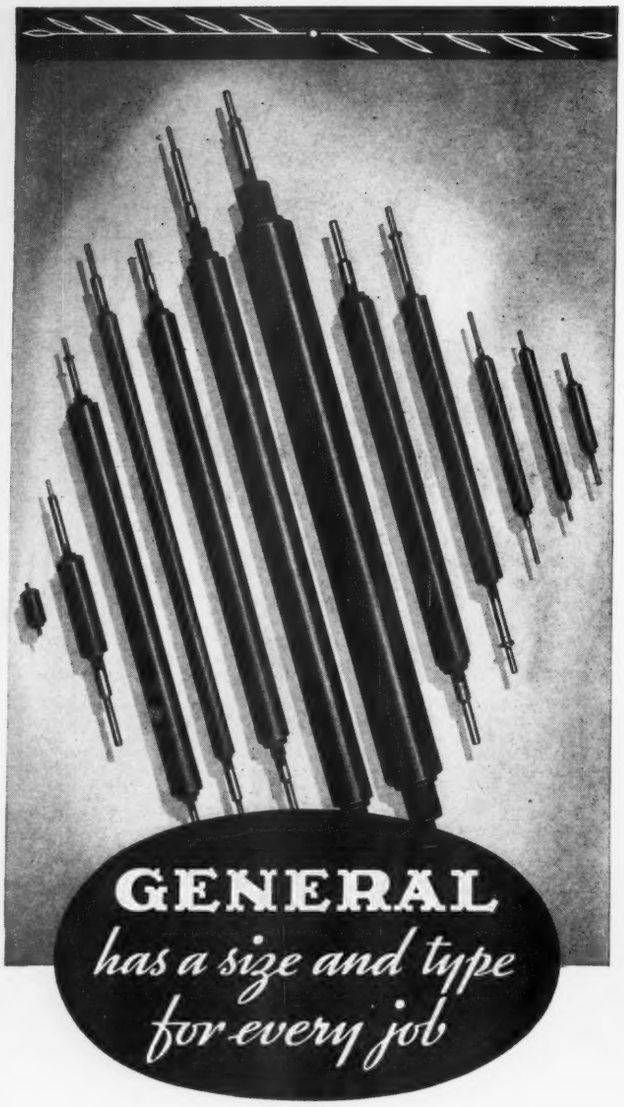
Western Newspaper Union, Oklahoma City, Okla.

THE MONOMELT COMPANY, Inc.

1617 POLK ST. N. E.

MINNEAPOLIS, MINNESOTA

Patent Pending



★ Whether your work requires synthetic rubber rollers or natural rubber compound, General supplies a complete line of rubber rollers in graduated degrees of softness to meet your particular printing problem.

General rollers are now widely used by newspapers, box and carton printers, lithographers and job press operators. It will pay you to investigate the money-saving features of General rollers and write for names of nearest dealers.

General Tire & Rubber Co., Akron, Ohio

GENERAL
RUBBER ROLLERS

Equipment

(*Continued from Page* 32)

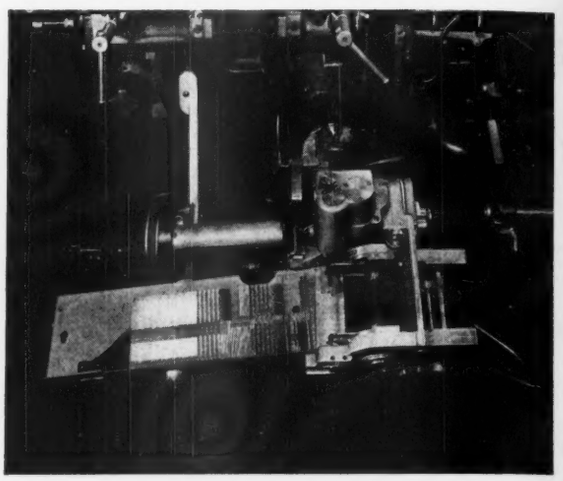
finish which simplifies cleaning and maintenance. The unit weighs 67 lbs. complete with tube and lamps.

The new unit is expected to have particularly valuable application in departmental printing plant work.

Curle Automatic Slug Corrector

The Curle Automatic Slug Corrector and Low Quadding Attachment for line-casting machines made by the Curle Manufacturing Company, weighs less than fifty pounds, when attached to the machine. It is designed to trim the slug parallel (bodywise), square on both ends, and "low slug" the blank or quadded portions of slug lines. It is claimed it is possible to trim slugs to exact foundry type point thickness.

The manufacturer claims that slugs trimmed by the machine have no tendency to work up on a flatbed press as they can be trimmed slightly thicker at the bottom than at the top. Since the ribs are from three



View of Curle Automatic Slug Corrector and Low Quad Trimming Attachment attached to the vise of a line-composing machine.

to four points wide and ground straight through the mold cap, the lock up pressure occurs at the extreme bottom of the slug.

The device is provided with two saws, one of which trims the right-hand (or constant) end of the slug just enough to square the end at right angles with the printing face and the bottom of the slug. The other is adjustable, and slugs may be sawed to length by points. An adjustable knife removes the proper amount from the shoulders so the slug will be flat on the smooth side.

The trimming operation takes place after the slugs are ejected from mold. Each slug is held firmly against an adjustable bar by means of spring pressure and moved lengthwise past a revolving cutter to insure uniform thickness. The ribs may be trimmed off completely if desired.

All operations other than changing thickness and length are automatic and a simple adjustment makes it possible to cast overhanging figures.

The low-slugging operation takes place after the slug passes the rotary side trimmer. The construction of the low slugger mechanism is such that it will low-slug any blank portion of the slug and may be instantly thrown in or out of operation at the will of the operator. It is built as a separate unit and may be removed easily when it is desired to use the machine with the trimming

and sawing features only. The attachment handles ten lines a minute.

The Automatic Slug Corrector Attachment may be applied to any outstanding or new Intertype or Linotype machine within a few minutes after the knife block, knife wiper and slug galley have been removed. Manufacturer says it is not necessary to drill holes or make other alterations in the machine. The attachment does not interfere with the opening of the vise and may be completely counterbalanced by the regular spring provided for that purpose.

New Ludlow Italic

Tempo Heavy Italic, the latest addition to the Tempo family, in sizes from 12 pt. to 72 pt. is announced by the Ludlow Typograph Company. "As will be apparent from the specimen lines shown herewith" manufacturer states, "this typeface has enough weight for basement or food market display, combined with the grace and distinction required for fine commercial printing."

Specimen sheets showing other sizes of Tempo Heavy Italics may be obtained on request to the Ludlow Typograph Company.

PRODUCTION COST Supplement of styles

View of Pedestal Type Depthometer which is fitted with ½ in. diam. stem for indicating depth in photoengraving, electro or stereo plates.

Pedestal Type Depth Gauge

A photoengraving, electro or stereo plate depth gauge, or depthometer, having a depth indicating range from 0.001 in. to 0.100 in. by thousandths has been announced by American Publishers' Supply. The case stem, or pedestal, is ½ in. diam. and the bearing surface is lapped flat. The stem is hardened steel, as is also the removable needle point. The white dial is approx. 1¼ in. diam. and is divided into spaces representing 0.001 in. each. The dial is rotatable and a bezel lock is provided to lock the dial in a fixed position after obtaining a zero setting when the instrument is rested on a plane surface such as plate glass. The plunger is spring-actuated so that when the instrument is set upon the printing plate, the depth is at once indicated.

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There's no question but that Burgess "Chrome" Mats Make BETTER Printing Plates.

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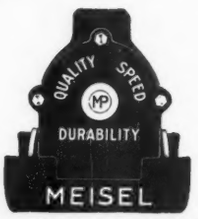

Reg. U. S. Patent Office

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....SOME day, when something goes wrong, somebody will say "why don't you use Masterpiece Cork Molding Creepers and Stere-O-Cork Molding Blankets? You can't go wrong because Masterpiece Cork Molding Creepers and Stere-O-Cork Molding Blankets have the approval of hundreds of leading stereotypers."

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I.T.C.A Convention

THE International Trade Composition Association will convene at the Netherland Plaza, Cincinnati, on September 28-29. President Arthur J. Meyer will preside. Among the speakers already listed are: Frank M. Sherman, Lanston Monotype Company, who will speak on "The History of Bible Printing," illustrating the talk by a number of valuable exhibits; J. F. Sherwood, C. P. A., Lecturer on Taxation at the University of Cincinnati and Member of Committee on Taxation of the Cincinnati Chamber of Commerce, "The Most Feathers with the Least Squawk;" Louis A. Braverman, The Fleuron Press, "The Trade Compositor from the Printer's Viewpoint;" and Nathan A. Silverblatt, Peerless Printing Company, "The Problem of Rising Composition Costs."

The remainder of the business program, although not definitely decided, will include addresses by several nationally-known men in the graphic arts industry.

The open forum, always a feature, is expected to include discussions on precision methods, local association activities, and co-operative advertising.

Entertainment features include a dinner-dance at Arrow Head Inn on Monday night. The ladies present will be entertained at a bridge party and tour of Taft Museum.

The Cincinnati committee on arrangements is composed of B. A. Baarlaer, Chairman; J. H. Breitenbach; John T. Brinkman; T. Everett Cobb; Geo. W. Hancock; Peter Sattler, Jr.; Edw. T. Schulte; W. G. Smith; Edward J. Stubenrauch.

The respective wives of the above, with Mrs. B. A. Baarlaer as chairman, constitute the ladies' committee.

New Press for Indianapolis Star

With the installation of nine Goss Heavy Duty Anti-Friction Units and three pairs of folders and a recent addition in floor space, the Indianapolis *Star* will have one of the largest and most modern pressrooms in the Middle-West. Four floors have been leased in the building adjoining the present plant, to be devoted to mechanical departments and mailing room.

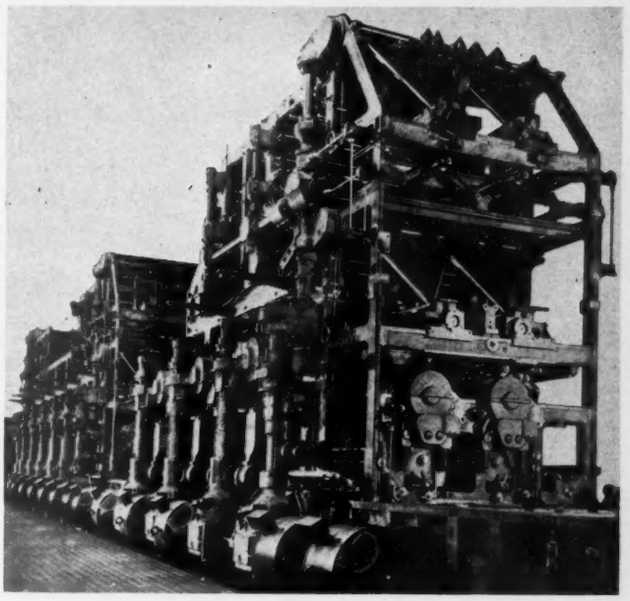
General Manager B. F. Lawrence states the decision to invest more than $250,000 in new press equipment at this time was prompted by a desire to afford greater facilities to advertisers, produce a more attractive paper for readers, and provide for increasing production demands. When the new press is in operation, the *Star's* color facilities will be augmented to a point where the publisher will be able to offer advertisers a wide range of r.o.p. color.

The new Goss Units are designed for the heaviest requirements of newspaper production. Maximum speed is from 50,000 to 60,000 complete papers per hour.

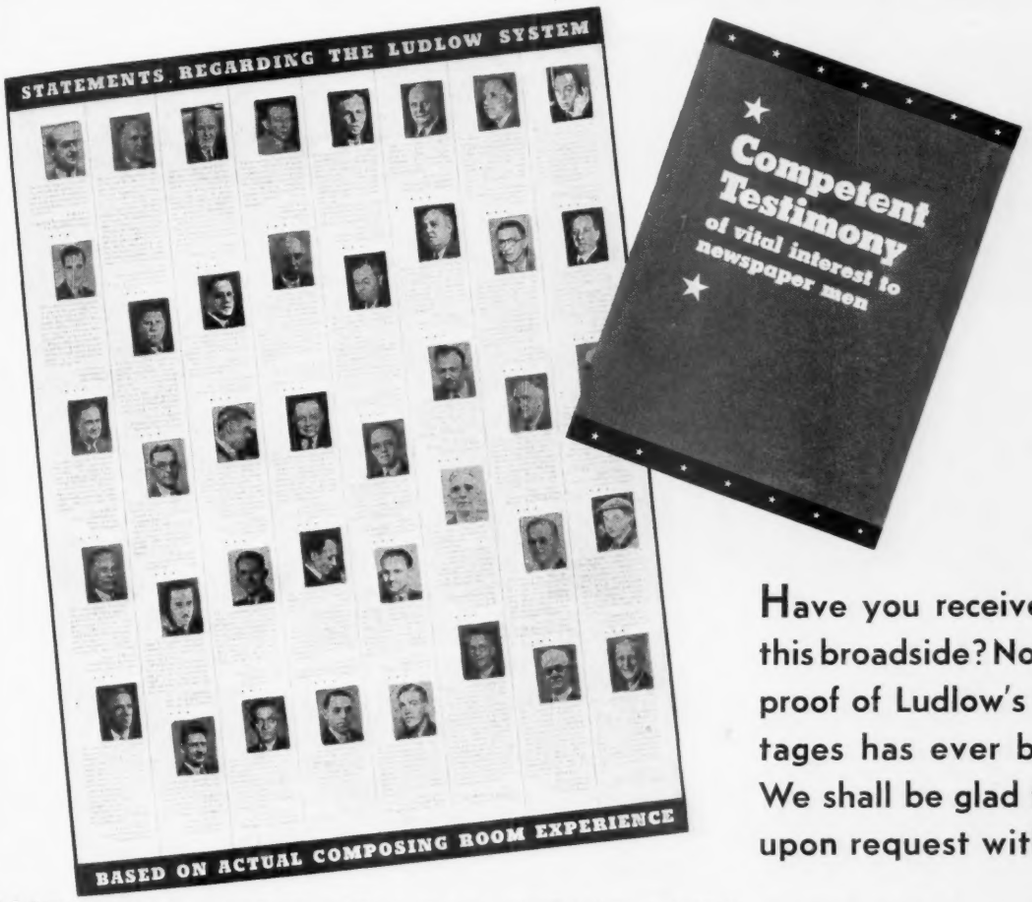
Each of the nine Goss Units to be installed at the *Star* weighs approximately 31 tons. Massive construction is designed to minimize vibration. It is claimed noise and wear are reduced and trouble from back-lash and web breaks are avoided. Units are equipped with ball and roller bearings throughout (114 on each), and all cylinders are mounted in pre-loaded Timken bearings to remove play and eliminate cylinder jumps. All rapidly moving parts are dynamically balanced.

The new units will provide greater safety in the pressroom, for all moving parts are entirely enclosed. The press will be equipped with automatic pressure oiling, patented plate lock, and late type ink fountain controls.

The folders will be the new Goss anti-friction, five fan fly, rotary delivery type, which lays down light or heavy products smoothly and evenly with folded edge forward. An improved kicker arrangement and counter is provided. The design of the folder prevents clogging or choking, and eliminates "dog-eared" copies.



The Indianapolis *Star* is the first newspaper in a city of less than a million population to install the heavy-duty type of Goss High-Speed Anti-Friction Press. Extra speed reserve for emergencies is also provided for in the new installation.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BASED ON ACTUAL COMPOSING ROOM EXPERIENCE
Competent Testimony
of vital interest to newspaper men

Have you received your copy of this broadside? No more convincing proof of Ludlow's manifold advantages has ever been assembled. We shall be glad to mail it to you upon request without obligation.

LUDLOW TYPOGRAPH COMPANY, 2032 Clybourn Avenue, Chicago

MANY VISITING PRINTERS COME TO CLEVELAND ON LITHOGRAPHERS' DAY AT GREAT LAKES EXPOSITION

During Lithographers' Day at the Great Lakes Exposition, Cleveland, on August 22, lithographers throughout the country were guests of the Harris Seybold Potter Company. H. A. Porter, Vice President in Charge of Sales, was host to large groups attending from St. Louis, Chicago, Joliet, New York, Cleveland and vicinity.
The largest visiting delegation was the entire membership of the Litho Club of Chicago who came in a private car. After breakfast at the Hollenden Hotel in Cleveland, specially chartered busses took the visitors to the Harris plant where a new two-color offset press with stream feeder was inspected in operation. After the factory tour and luncheon the party visited the Harris booth at the Exposition where they inspected the running by the staff of the Crane-Howard Lithograph Company, of a two-color job on one of the Exposition presses.

Will Exhibit Bible

The two-volume copy of the Bruce Rogers Oxford Lectern Bible will be exhibited at the Netherlands-Plaza headquarters of the Lanston Monotype Machine Company during the U. T. A. Convention in Cincinnati, September 28, 29, 30.

Establishes New Office

The Triangle Ink and Color Co., Inc., with factory and general offices in Brooklyn, has announced the opening of a branch office at 219 West Franklin St., Baltimore, Md. Printing and lithographic inks will be stocked. J. F. Perfect is manager of the new office.

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Selby Mohr, 883 Mission St., San Francisco, Cal.
C. S. Illingworth, 49 Springville Avenue, Buffalo, New York
Thompson-Hayward Chemical Co., 2228 Blake St., Denver, Colo.
Thompson-Hayward Chemical Co., 909 2nd St. So., Minneapolis, Minn.
Metzger Photo Supply Co., 1091 So. Main St., Akron, Ohio
G. C. Dom Supply Co., 125 East Pearl St., Cincinnati, Ohio

A History of Printing in The United States

There is being published this month one volume of a four-volume set entitled *A History of Printing in the United States* by Douglas C. McMurtrie, director of typography of the Ludlow Typograph Company, who has for many years been doing intensive research in this field and is the author of numerous books on the history of the early press in individual states and cities.

It so happens that the first volume to be completed is Volume II, covering the Middle and South Atlantic States, in other words, the seaboard states from New York to Georgia inclusive. The remaining volumes of the set will appear at six-month intervals. Volume III will cover the Middle West, Volume IV the Far West, and Volume I will contain introduction, summaries, and deal with the history of the press in the New England states.

The main text is devoted to narratives of the introduction of the press and work of the early printers in the various states covered. There are 71 full-page illustrations. At the end of the volume are 60 pages of bibliographies and notes.

On the decorative end papers is a map of the United States, on which is noted the date of the introduction of printing into each of the states.

Much information presented by Mr. McMurtrie is entirely new, being based on material in domestic and foreign archives which has not hitherto been brought to light. A large percentage of the information on the press of the Carolinas and Georgia is entirely new.

A History of Printing in the United States is published by R. R. Bowker Company, New York, and copies of Volume II can be obtained from them or through any local bookseller.

New Combination Fixture

A new Benjamin lighting unit combines the light from a 250 watt Mercury Lamp and one 300 watt or two 150 watt Incandescent Lamps resulting in a soft and diffused light which seems to provide an especially high degree of eye comfort and gives a more pleasant light than that provided by either Mercury Lamps or Incandescent Lamps alone. The mixing of the yellow-green light rays of the Mercury Lamp and the predominantly red rays of the Incandescent Lamp in this new combination fixture provides a light which is psychologically cool and which simulates daylight.

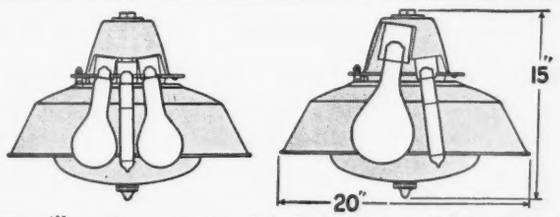

Diagram illustrating construction of the Benjamin Press Lighting Unit which has been produced according to one of the recommendations of the Illuminating Engineering Society's Committee on Industrial and School Lighting.

Combining a porcelain enameled steel dome type reflector and a diffusing globe of opal glass, the lighting characteristics of these units are similar to those of the Glassteel Diffuser. Approximately 10% of the light is directed through apertures in the top of the reflector onto the ceiling, to reduce sharp contrasts.

An oxidized Alzak aluminum auxiliary reflector is provided in the hood to assure maximum utilization of the light from the lamps.

● Your printing *lives*, radiates action, *talks* to the customer, when produced with DULLSET, the ink that duplicates the artist's soft, delicate tones in brilliant, dynamic hues . . . Packages printed in DULLSET just *can't stay on the shelf*. Everything produced with this practical, flexible ink is attractive in appearance—reflects the *quality* of the product advertised. DULLSET builds prestige for the printer and sales for the advertiser . . . No special equipment is required. DULLSET is ideal for either rubber or metal plates, and causes no press-room difficulties. This ink is not affected by moisture. The result is superior to water-color, pleasingly flat and as smooth as fine satin. Let DULLSET build *new business for you!*

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C & G TRADE MARK

Look at the design of the New No. 3 C & G Cabinet Model Saw Trimmer. Simple, sturdy, accurate for years.

No excess parts. No fancy handicaps. Just practical, plant-proved production that results from minimum operation movements and elimination of slow acting adjustments.

Time against time tests would prove the savings the New No. 3 Cabinet Model Saw Trimmer will bring to your composing — savings which mean profit to you.

An illustrated folder shows many of these time saving features of the New No. 3 C & G Saw Trimmer. Write for your copy right now. It will prove valuable to you.

Milwaukee Saw Trimmer Corp.
612 E. Clybourn St., Milwaukee, Wis.

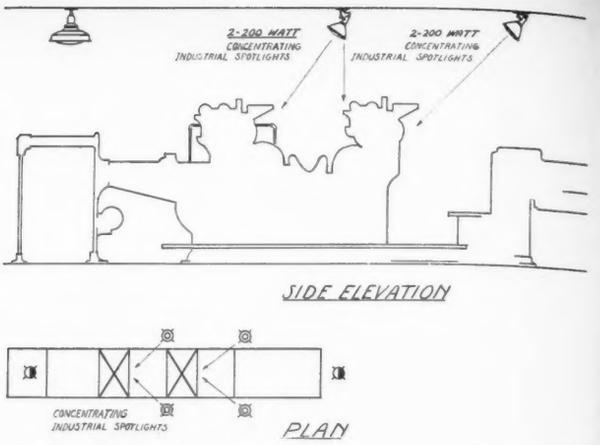


Fig. 19—Illumination of two-color offset press by means of concentrating industrial spotlights on swivel mountings combined with industrial enclosing glass units.

Lighting

For Printing Plant Improved by Detailed Engineering Study

IV Progress Report*

IN regard to offset presses, it has been common to use porcelain-enamel steel angle reflectors pointing in from either side of the press to light the cylinder and blanket roller. Fine discrimination is demanded at this point for accurate aligning and clamping of the zinc, registering of underlays, insertion of spot-up material under blanket, etc. The difficulty with the angle reflectors is that as the pressman enters the press from either side he is blinded by the full exposure of the lamp on the opposite side. If the concentrating industrial spotlight type of unit were used as in Fig. 19, this would be avoided. This type of equipment is mounted on a universal swivel so that it may be pointed directly at the cylinder and the blanket roller. It produces a beam of light which can be adjusted to cover the cylinder and roller. Unless the eyes come directly within this beam, they are protected from glare. It is recommended that two 200-watt concentrating industrial spotlights be used in the case of a one-color press and a doubling up of these units in multi-color presses as shown in Fig. 19.

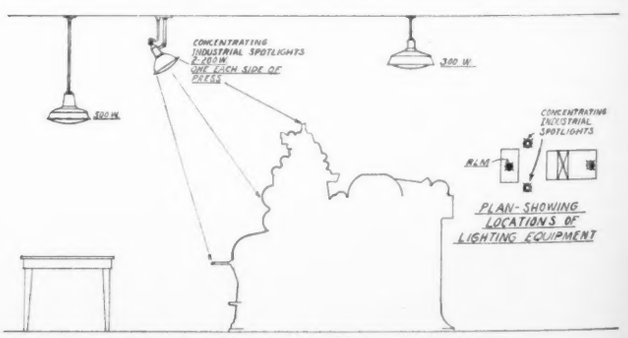


Fig. 18—Illumination of offset press.

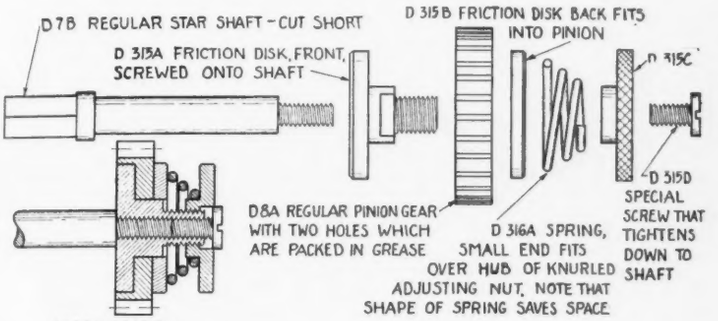
*This is the fourth installment of a report which was submitted by the Committee on Industrial and School Lighting of the Illuminating Engineering Society, March, 1936.

OBSOLESCENT PARTS—LIKE OBSOLESCENT MACHINERY EAT UP PROFITS!

There are many "Star" parts for typesetting machines that have incorporated features that will **lengthen their life and increase** the **efficiency of the machine.** They have all stood the test of long service in the field. They will be found in use in thousands of composing rooms throughout the country. Illustrated below are just a few of them that have obvious points of superiority.

AN ADJUSTABLE STAR WHEEL FRICTION

that will assure smoother assembly of matrices. Knurled disc (D315C) makes adjustment of tension.


D7B REGULAR STAR SHAFT - CUT SHORT
D 315A FRICTION DISK, FRONT, SCREWED ONTO SHAFT
D 315B FRICTION DISK BACK FITS INTO PINION
D 315C
D 315D SPECIAL SCREW THAT TIGHTENS DOWN TO SHAFT
D8A REGULAR PINION GEAR WITH TWO HOLES WHICH ARE PACKED IN GREASE
D 316A SPRING, SMALL END FITS OVER HUB OF KNURLED ADJUSTING NUT. NOTE THAT SHAPE OF SPRING SAVES SPACE

CROSS SECTION SHOWING VARIOUS PARTS ASSEMBLED

Quite a few plants have completely equipped machines with above improvement after a trial. Price $2.15 Complete.

BACK MOLD WIPER

Attached by means of clamp to frame of machine, below mold disc.

A strong reinforced spring upright furnishes adequate pressure against the mold.

Wiping surface almost 2½" in diameter.

Revolving and removable wiper disc.

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Detailed description of above and additional improved parts will be sent on request.

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In general, the water and ink fountains on these presses are out in plain view and can be lighted by the general overhead equipment.

In other respects an offset press presents the same lighting problems as any other press, except that there is no under feedboard problem. The feed and delivery ends require the same equipment as described for the flat-bed press.

Web Presses—In the case of high-speed web presses as found in photogravure and newspaper plants, the press manufacturers have in general incorporated lamp receptacles in the side frames at fairly regular intervals for use with vapor-proof enclosures. These may be considered as safety rather than working lamps. The space allows for only small-wattage bulbs that are exposed in all directions and are quite glaring. Reflectors should be incorporated within the bell-jars to shield the light from the eyes of the pressman and incidentally throw more light into points of the press where it is needed. Aside from this, and particularly on the proving presses, there is need for high illumination at certain points such as the doctor-blade mechanism, end-adjustment of cylinders (for registry) at the folding mechanism, etc. Certain printers have used angle-type reflectors suspended from self-coiling reels or coil spring cable wheels with ratchet and pawl mechanism. These are pulled down and into the press for close discrimination when needed. Such equipment is tedious and bothersome to use. It is apt to be dangerous. As an alternative the use of 200-watt vapor-proof concentrating industrial spotlight units is recommended, these to be mounted on pipe stems from the ceiling and adjusted once and for all at the proper angle. Such equipment provides high illumination without glare and is safe in operation.

General Lighting—Aside from special lighting on the various types of presses as just described, there is need for general illumination in the pressroom to a value not less than 10 foot-candles. Where there is a battery of presses, the overhead fixtures should be lined up in the aisles between presses so as to light the traffic space and throw light into the side frames where many of the press adjustments are located. For example, inching mechanism on ductor rollers, cylinder spring tension, vibrator and angle adjustment on form rollers, etc.

The Photographic and Developing Process—Arcs have usually been employed for the photo-chemical processes. Some use has been made of the 2000-watt "Movieflood" incandescent lamps and also the 5 and 10-kw incandescent lamps. The short life of these lamps is not serious if they are operated at reduced voltage during the period when the copy is being put in place, etc., full voltage being applied only during the time of exposure. Series

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FOR NEWSPAPER PRESSES

DIRECT CURRENT

ENGINEERED FOR . . . LOCAL CONDITIONS

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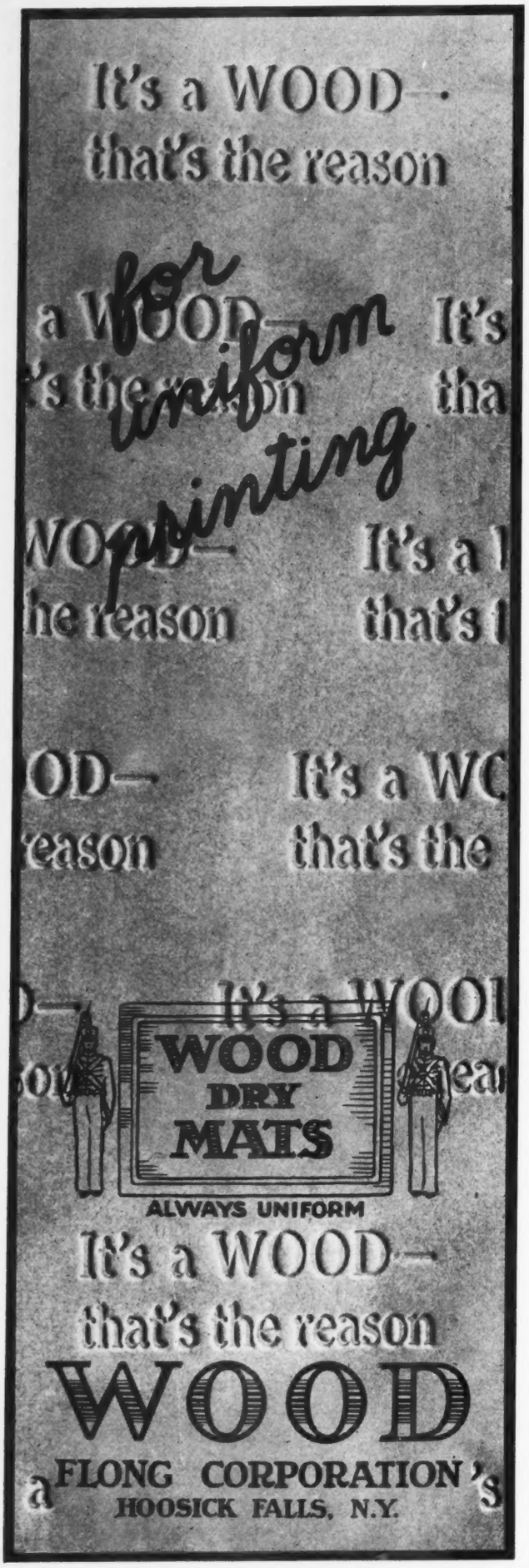
DESIGNED FOR . . . PRESS REQUIREMENTS



resistances provided with short-circuiting switches are used for this purpose.

With the rapid progress now evident in improvement of light sources, such as mercury lamps, material developments may be looked for in lamps for photographic and contact printing.

Camera Room—In the general lighting of the camera room, there should be better provision than is generally found for camera adjustments, particularly for the verniers on Bassani attachments. If small-wattage, local lights, were hung close beside the camera and enclosed in metal cylinders with sliding door, the scales could be quickly and accurately read without danger of plates being light-struck. Overhead lighting of the order of 5 foot-candles is considered desirable and safe, providing care is exercised in placing fixtures with respect to the camera fronts. For roughing operation on screens, a 300-watt unit is excellent. It should be hung so that lower face of the unit is slightly above head level for operator in sitting position.

Wet-Plate Developing—The lighting essentials in wet-plate developing consist, first, in a vertical panel of white vitreolite, or equivalent, evenly illuminated to an intensity of not less than 50 foot-candles, and in such a manner that the operator does not see reflections of the fixtures in the vitreolite. That is, the reflections must be in such a direction as to fall below eye level. Fig. 21.

In addition there must be a high illumination for the sink proper as the operator washes the plate and applies the cyanide. Daylight cover-glasses are recommended inasmuch as brownish-yellow traces of iodine show up more clearly under this light than under the comparatively yellow Mazda light.

In the lighting of rooms where the light-sensitive materials are handled, that is, where the glass plates are sensitized and developed after exposure, ruby or amber lamps hanging on cords are rather apt to be the practice. Standard safelights are recommended. These consist of

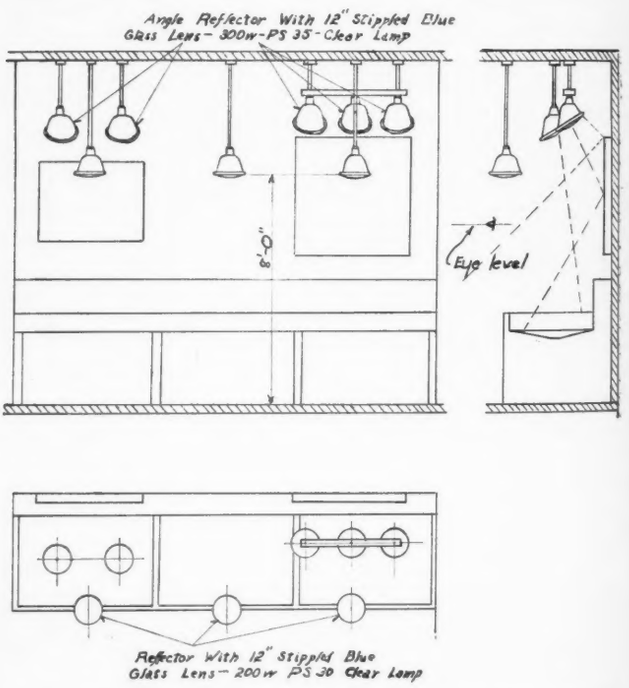

Angle Reflector With 12" Stippled Blue Glass Lens - 300w-PS 35-Clear Lamp
80"
Eye level
Reflector With 12" Stippled Blue Glass Lens - 200w PS 30 Clear Lamp

Fig. 20—Developing stand for wet plate process, offset printing. Vitreolite panel must be so placed that reflections of the fixtures fall below eye level, as shown.

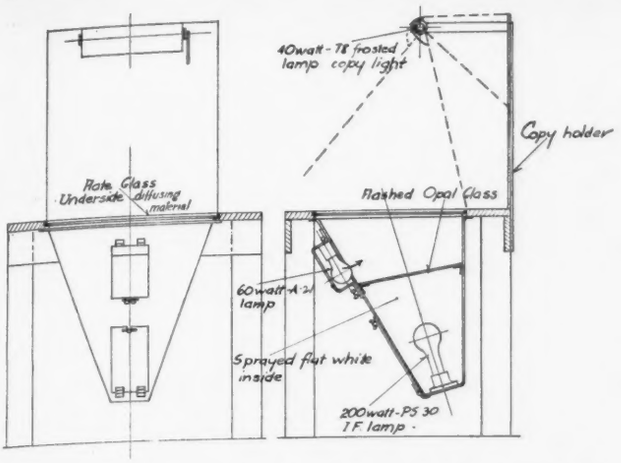


Fig. 21—Stripping frame recommended for offset and photogravure printing establishments. The 60-watt lamp is on separate switch and is used only when very high plate brightness is needed momentarily. The overhead unit is swung toward copy except for scribing operation when it is turned downwards by handle at left.

a light-tight metal box with a standard 25 or 40-watt lamp inside. An opening in the box is covered with a safelight window, usually 8 by 10 or 11 by 14 inches. The light-transmitting characteristics of the window are such as to provide illumination safe for the materials being used. The windows are readily changed to meet the needs of the different light-sensitive emulsions that may be used.

Two or more safelights suspended from the ceiling will provide indirect illumination of sufficient value to enable the operator to see his way about and select the proper chemicals from the shelf. An additional unit should be provided over each developing tray so that the progress of the development may be observed.

It is also advisable to provide an auxiliary white-light system in the room to be used when cleaning, washing bottles and trays, and mixing chemicals.

The switches should be well marked and preferably of a different type, that is, one a turn switch and the other a tumbler switch, so the operator will not easily turn on the wrong lights.

Stripping Frames—The illumination of stripping frames is usually extremely haphazard and trying on the eyes. The first requisite is uniform illumination of the plate, but on the contrary, illumination values ranging from 1.7 to 125 foot-candles are often found on the same frame due to the use of poorly frosted or painted glass with bare lamps only a few inches underneath. The lamp spots are excessively bright and highly irritating to the eyes of the workmen. The proper solution is indicated in Fig. 21. In this case the upper or working plate exhibits a uniform, adequate, brightness over its entire area, with no lamp spots except one that is wired on a separate switch. This lamp is for the few instances where, on account of the density of the film, etc., a very high brightness is required. The copy is illuminated by a separate lamp placed so that no light strikes the working plate. For cutting around portion to be stripped, there must be strong light from above the frame. This is secured by rotating the copy-light through a quarter turn. The same remarks apply to the larger line-up cabinets, inspection frames, etc., wherever used.

Other Operations—Concerning removing film from plate, on this operation workmen often face bare lamps within a few inches of the negatives and not more than a foot or so from the eyes.

HAVE YOU HAD THIS EXPERIENCE?

Have you been called before the Old Man to answer a question as to why a certain cut did not appear in the paper? Probably you discovered the pressman stated he couldn't print the cut if it wasn't cast in the plate and that the stereotyper said he couldn't mold a cut if it wasn't in the form. The answer, of course, is that the cut was lost off the galley somewhere between the ad alley and the makeup department because it wasn't cemented to its base with Booth's Zink Cut Cement.

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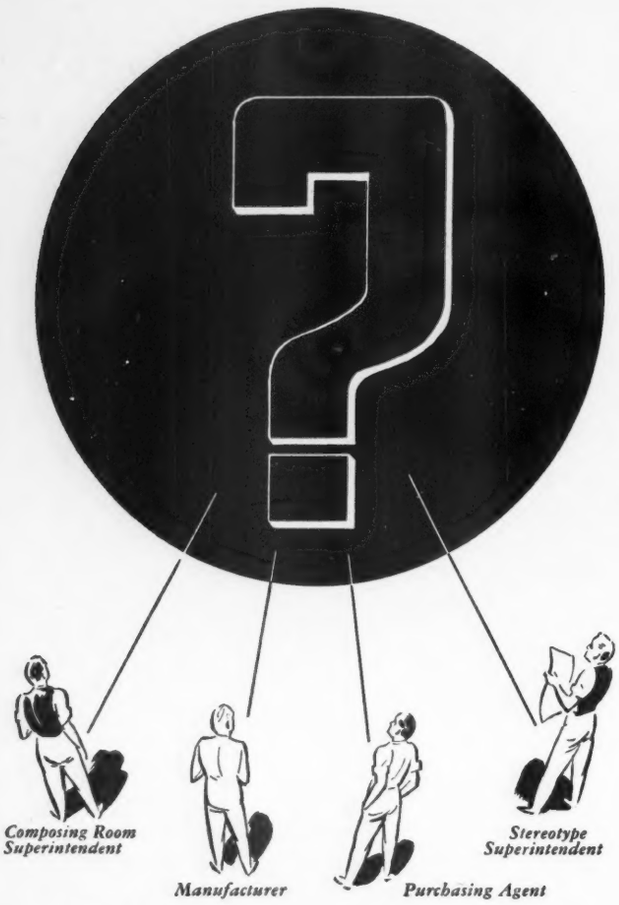

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For zinc preparation, such as graining and regraining, coating, drying, etc., there is need for good general overhead lighting to a value of 12 to 15 foot-candles, and concealment of all bare lamp sources, otherwise no special lighting problems present themselves.

In the contact printing operation where Vernier adjustments exist, little or no provision has been observed for reading the very fine graduations on the registering adjustments. These must be set and reset for every exposure and as it is now, close and tedious scrutiny is demanded, which slows up the operation and combats close register. From 75 to 100 foot-candles are required which may easily be secured by the use of a self coiling reel with a 60-watt lamp and double cylindrical enclosure or reflector, the cylinders sliding one within the other to provide an adjustable slot or opening.

Proofreading—Rather scant attention has been given to the lighting of proofreaders' cubicles. The common practice is to mount a flexible arm on the side partition with half-shade with 60- (or 100) watt lamp. If the lamp is in front of the proofreader there is irritating paper and ink shine. If pulled around to the side, this reflected glare is avoided but the heat of the lamp close to the head is complained about. Also the proofreader on that side will enjoy perhaps 50 foot-candles while the other proofreader gets possibly 8 to 10 foot-candles.

Totally indirect lighting as described for the office space, but to give an illumination level of from 50 to 100 foot-candles, will be found well suited to the task. Where there is no possibility of creating a suitable ceiling, then fixtures of the types as illustrated in Fig. 5, May issue, should be used mounted not more than 6 feet 6 inches from the floor (or 24 inches from head of proofreader sitting) and directly above the table top. If this type of fixture is used the table top must be inclined not less than 15 degrees from the horizontal.

Lighting for Binding

In the bindery most of the operations are quite mechanical, and performed on semi or full automatic machines with little overhang. On the other hand, employee hazard, to say nothing of the need for cheerful surroundings, calls for good general overhead illumination. It is recommended that this department should be lighted throughout with a sustained level of illumination of not less than 20 foot-candles.

The typical bindery today has a multiplicity of drop cords with shaded and unshaded lamps producing dark shadows and glare. Such a system is inefficient and tends to restrict the working space to the scattered spots where the best light is obtained. Good general lighting has the effect of expanding the floor space as it renders every square foot intensively workable.

Regular spacing may be departed from in the case of cutters, drills, etc., where the fixtures must be very carefully placed.

Cleveland Office Moved

Due to increased business, it has been necessary to move the Cleveland office of the Sigmund-Ullman Co. to 310 Lakeside Ave., which is at the corner of West Third St. and Lakeside Ave. The office is managed by C. C. Kloepfer.

New Bearings Division Manager

R. B. Nichols has been appointed Manager of the Industrial Bearing Division of the Bantam Ball Bearing Company. Mr. Nichols has been identified with the bearing industry for over 12 years, most of this time having been with Bantam.

Color Facilities Provided In New Press Installations

The new 16-page Duplex Unitubular Press for the Canton (Ill.) Daily *Ledger* will be equipped with a combination half and quarter-page folder, automatic tension devices, electric paper roll hoists and one double color cylinder unit. The press will be equipped with three pairs of reversible cylinders and quick lock-up on all plate cylinders. To accommodate the publisher's desire for printing color, registering mechanisms will be provided on all of the plate cylinders. This press is also to be equipped with removable pan fountains and a fold squaring device on the folder. The removable pans permit economy in the use of inks and conservation of time in changing from one color to another. The fold squaring device, it is said, will be of value in saving what otherwise would be waste papers, especially with color runs.

The Henderson (Tex.) *News* has recently purchased from The Duplex Printing Press Company a new 16-page Standard Tubular Press equipped with complete "tubular" stereotyping machinery. This new press will deliver from 2 to 16-page papers at the rate of 25,000 copies per hour.

A new 24-page Duplex Unitubular Press with roll stands at ends has just been purchased by *El Imparcial*, San Juan, Porto Rico, from The Duplex Printing Press Company. This new press is to be equipped with a single-color unit and one pair of reversible cylinders for convenience in color printing. The color cylinder will be equipped with Duplex removable pan fountains. The half-page folder will be equipped with a fold squaring device by which the papers can be kept folded properly at any speed. A complete set of "tubular" stereo machinery will be sent with the press which will be arranged to print a tabloid size paper similar to the New York Daily *News* and is so arranged that it will print two colors and black on four pages of a 40-page tabloid run or 48 tabloid pages in black only.

Printing Equipment Association to Meet

The Third Annual meeting of the National Printing Equipment Association will be held at the Netherland-Plaza Hotel, Cincinnati, on Tuesday, September 29. Election of directors will take place and reports of officers will be heard. Buffet luncheon will be served members of the Association.

Name Changed

Effective with the September, 1936, issue, *Bookbinding Magazine* will be known as *Bookbinding & Book Production*. The magazine, established in March, 1925, is published monthly. The editorial content includes the design, typography, composition and presswork of books. E. A. Freund is publisher and David M. Glixon, editor.

Dismisses Suit

In Federal Court recently, Judge Campbell dismissed the suit brought by Brandtjen & Kluge against the Chandler & Price Company, declaring the Chandler & Price Craftsman Press with Automatic Feeder not to be in conflict with patents owned by the plaintiff.

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• Why not try something new? It will cost you nothing to try FLEX dry mats and you will discover a new way to improve your stereotyping and printing.

• Features of FLEX dry mats are low-pressure molding, uniformity of gauge and shrink, quick scorching, excellent stay-back, low-temperature casting, freedom from buckling, and, particularly, splendid reproduction of halftone and Ben Day screens. Type matter is cleaner, too, and heavy solids are blacker when FLEX dry mats are used.

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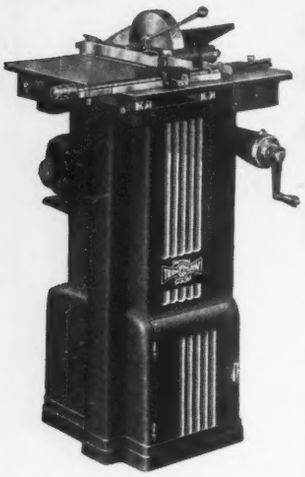

Other Recent Installations

King Typographic Service, N. Y. (3)	Daily Sun, New York (3)
Detroit Typesetting Co., Detroit	Journal Gazette, Ft. Wayne (2)
Pgh. Monotype Comp. Co., Pgh.	Dispatch, Columbus
John C. Meyers & Sons, Philadelphia	Herald Examiner, Chicago
Typecrafters, Philadelphia	Daily News, Dayton
Baltimore Type & Comp. Co., Balt.	Chronicle Dispatch, Dayton
Kelley-Jamison Intertypers, Memp.	Everybody's Daily, Buffalo
Central Trade Plant, Grand Rapids	York Gazette, York, Pa.
General Typesetting Co., Chicago	Record, Erie
Stewart Company, Dallas	Times, Erie
Acme Typesetting Co., Kansas City	Tri-City Star, Davenport
	Times Journal, Oklahoma City
	Reporter, St. Paul
	Evening Gazette, Reno
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Patents

(Continued from Page 35)

cooling unit located between and below the supply roll and the printing unit, the heating and cooling unit comprising a heating cylinder and one or more cooling cylinders, and means for delivering the web in a path leading under the heating and cooling unit.

2,048,485. WEB PRINTING ROTARY PRESS. Howard M. Barber, Pawcatuck, Conn., assignor to C. B. Cottrell & Sons Company, Westerly, R. I., a corporation of Delaware. Application July 27, 1935, Serial No. 33,497. 3 Claims. (Cl. 101—178.)

1. In a multicolor rotary printing press, a printing unit located at one end of the press, a combined heating and cooling unit located at the opposite end of the press and a web supply roll, all located in line with the press, and means for leading the web through the printing and combined heating and cooling units and delivering the web at the opposite end of the press from the printing unit, the printing unit comprising an impression cylinder and five form cylinders arranged around the same.

2,048,486. WEB PERFECTING ROTARY PRESS. Howard M. Barber, Pawcatuck, Conn., assignor to C. B. Cottrell & Sons Company, Westerly, R. I., a corporation of Delaware. Application July 27, 1935, Serial No. 33,499. 8 Claims. (Cl. 101—179.)

1. In a web perfecting rotary press, first and second multicolor printing units located side by side at one end of the press, first and second combined heating and cooling units located side by side, a web supply roll located in line with the first printing and first heating and cooling units, and means for leading the web through the first and second units and delivering the web.

2,048,764. PAPER ROLL BRAKING DEVICE. Henry A. Wise Wood, New York, N. Y., assignor to Wood Newspaper Machinery Corporation, New York, N. Y., a corporation of Virginia. Application February 3, 1931, Serial No. 513,119. 10 Claims. (Cl. 242—75.)

8. The combination with means for supporting a web roll in position to supply the web to a printing press, of means for applying retardation to the web roll on its surface, and means operated from a printing press for applying retardation to the web roll through its central axis when the press is decelerated.

2,048,801. ROTARY OFFSET PRESS. Albert S. MacLaren, Omaha, Nebr. Application June 30, 1933, Serial No. 678,453. 4 Claims. (Cl. 101—142.)

1. In combination, a rotary offset press including an impression-cylinder and an offset-cylinder arranged in superposed relation, a packing on the impression-cylinder, an offset-blanket on the offset-cylinder, the packing and blanket each having a longitudinal slot therein, means for rotating the cylinders in synchronism so that the respective slots substantially register and meet between the cylinders upon rotation thereof, means synchronized with the cylinders for feeding sheets of paper successively between the cylinders into the slots of the packing and blanket as the slots meet upon rotation of the cylinders, the cylinders then gripping the paper between the packing and offset blanket upon further rotation thereof, and means for stripping finished sheets from the cylinders.

2,049,257. OFFSET PRINTING PRESS. Herman Gould, Brooklyn, and Frank Ackerman, New York, N. Y. Application October 7, 1935, Serial No. 43,906. 4 Claims. (Cl. 101—35.)

1. A machine comprising a flat printing plate having readily changeable printing means, a platen frame having an elastic transfer pad with a substantially flat transfer surface adapted to receive an ink impression from the printing means, the transfer pad being mounted in a support which is removably held by the platen frame and cooperating means on the platen frame and the transfer pad support for normally holding the parts in assembled relation, the means being quickly engageable and disengageable for facilitating the application of the transfer pad to and its removal from the platen frame.

2,049,274. PRINTING PRESS FOR PRINTING WAX CARBON SPOTS ON SHEETS OF PAPER. Alexander B. Roe, Athens, Ohio. Application October 9, 1934, Serial No. 747,543. 16 Claims. (Cl. 101—335.)

15. In a press for printing wax carbon spots on sheets of paper, a reciprocating type bed in the press, the bed being provided with a plurality of compartments, means to supply a heating medium to the compartments, means to maintain a continuous circulation of the heating medium through the type bed and telescopic means to connect the compartments to the supply of heating medium.

2,049,454. PRINTING PLATE CLAMPING MECHANISM. Frederick Lamatsch, Grantwood, N. J., assignor, by mesne assignments, to R. Hoe & Co., Inc., New York, N. Y., a corporation of New York. Application November 17, 1934, Serial No. 753,448, 10 Claims. (Cl. 101—378.)

1. In a form cylinder, a plate clamping mechanism adapted to clamp a plurality of plates positioned in a longitudinal line on the cylinder, a plate clip adapted to hold adjacent edges of the plates, two additional clips, each adapted to engage edges of the plates opposite the adjacent edges, and means for operating the additional clips including screw threaded members in coaxial arrangement.

2,049,495. PRINTING APPARATUS. Leo Freuder, Brooklyn, N. Y., assignor to Vogel-Freuder Corp., New York, N. Y., a corporation of New York. Application August 24, 1931, Serial No. 558,860. 12 Claims. (Cl. 101—119.)

1. In an apparatus for printing, the combination of a frame, a cellular cylinder formed of a plurality of corrugated metallic strips laid alternately in opposite directions, a fountain within the cylinder forming a reservoir for the printing medium, a pump cylinder within the fountain and a contact cylinder in contact with the cellular cylinder.

2,049,636. PRINTING PRESS. Edward O. Vandercook and David D. Vandercook, Evanston, and Raymond L. Pelland, Chicago, Ill., assignors to Vandercook & Sons, Chicago, Ill., a corporation of Illinois. Application August 12, 1935, Serial No. 35,758, 8 Claims. (Cl. 101—269.)

1. In a printing press, an impression cylinder and a traveling carriage therefor, a reciprocating frisket carrier mounted entirely on the cylinder carriage, and drive means for the frisket carrier controlled by the cylinder.

2,049,846. INKING MECHANISM FOR INTAGLIO PRINTING MACHINES. Harry Little, Rye, N. Y., assignor by mesne assignments, to R. Hoe & Co., Inc., New York, N. Y., a corporation of New York. Application December 31, 1934, Serial No. 759,981. 18 Claims. (Cl. 101—157.)

1. In a printing machine, an ink fountain, an intaglio printing cylinder rotatably mounted in the fountain, a doctor blade, a holder for the doctor blade, and a biased member while influenced by the bias operably engaging the doctor blade holder to bias the holder toward the cylinder to hold the doctor blade in yielding engagement with the periphery of the cylinder and to also hold the doctor blade holder in positions in which the doctor blade is moved from engagement with the cylinder.

CLINE-WESTINGHOUSE ELECTRICAL EQUIPMENT
ALTERNATING CURRENT
FOR LETTER PRESSES
DIRECT CURRENT
ENGINEERED FOR . . . LOCAL CONDITIONS
CLINE SYSTEM — CLINE ELECTRIC MFG CO CHICAGO — CLINE WESTINGHOUSE
DESIGNED FOR . . . PRESS REQUIREMENTS

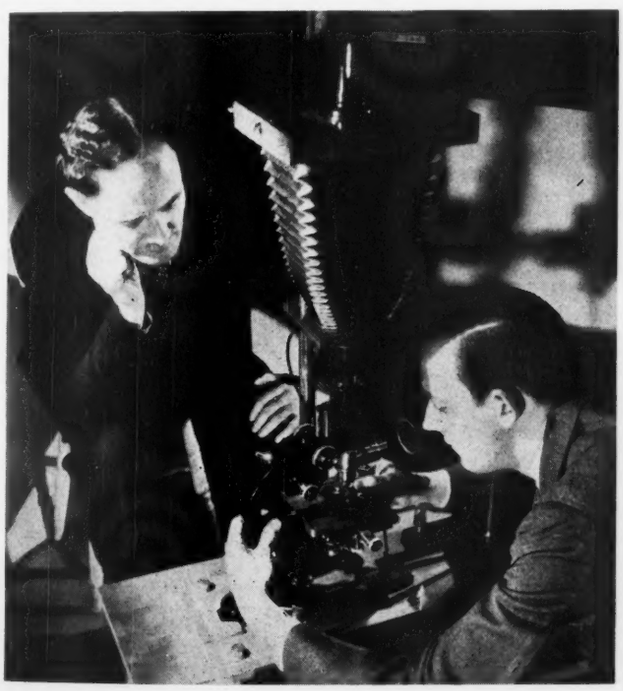
The offices, sales and display rooms of the Chicago agency of the Mergenthaler Linotype Company of which Fred A. White is manager, have been given new and modern treatment throughout, with a bright and cheerful color scheme of cream and white predominating, and with the wall behind the machines on display decorated in blue. The lobby walls are paneled and are surmounted with forty-inch-deep murals picturing the main factory building in Brooklyn and various departmental operations for making Linotypes and Linotype matrices.

Research

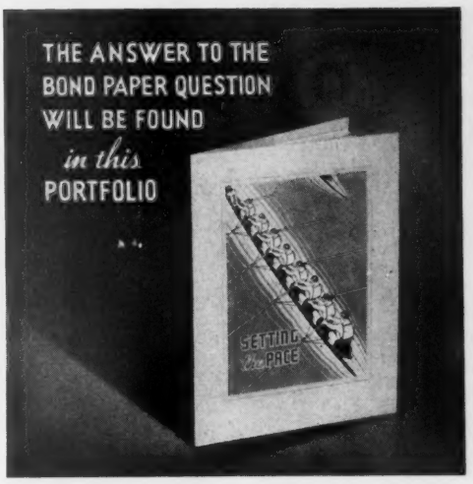
(Continued from Page 19)

color, so pressmen often add more ink to get a color they believe is nearer right. As a result, when the ink dries, it is the wrong shade. After various experiments, the Laboratories evolved a method of weighing sheets to check for proper ink thickness. After some further development, this means may be used generally as a guide for governing the flow of ink and a method to avoid the difficulties caused by wrong ink thickness.

A chart showing the various possible four-color combinations printed with screen plates for newspaper color work in comics and advertising was drawn up by The



Watching the action of a tiny printing press, magnified many times by the photomicrograph, enables IPI scientists to learn many new things about printing processes. Dr. A. E. Gessler, Director of the IPI Research Laboratory, looks on while Carl Foss operates the equipment.



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Howard Bond, recognized the country over as "The Nation's Business Paper," has the very qualities which make it deserving for letterheads and commercial forms. These qualities are substantiated in Howard's New 1936 Portfolio. Send for your copy today.

Compare it! Tear it! Test it! And you will specify it

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WATERMARKED
"The Nation's Business Paper"

THE HOWARD PAPER COMPANY, URBANA, OHIO
Send me the New Howard Portfolio.

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Firm .....
Address .....
City .....State.....
(Please attach to your business stationery) PEQ-4-36

Space-Buyers

Want clean, clear cut printing in the space they pay for. . . . Satisfy them by using

MORLEY MATS

Stereotypers, too, appreciate their moderate moulding pressure, which protects type and prolongs life of moulding blankets . . . and pressmen like their clean-printing qualities.

. . . all of which, of course, means larger profits for the publisher. Samples? Gladly!

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PORTSMOUTH, NEW HAMPSHIRE
New York Office, 46 East 11th Street

An Enormous Saving!

Printers mitering rules from strip material for more than ten boxes a day are passing up obvious profits if they are not using the ROUSE CABINET MODEL VERTICAL ROTARY MITERER.

Production executives not familiar with the performance of the latest model ROUSE VERTICAL ROTARY MITERER, which cuts nearly 20 miters a minute, should send for a copy of the NEW circular. It tells why the exclusive patented automatic clamp multiplies production on the ROUSE VERTICAL ROTARY MITERER. Write for your copy now.

H. B. ROUSE & COMPANY
2216 Ward Street, Chicago, Illinois

WILLIAM REID COMPANY, 557 So. LaSalle since 1912, will be moved to 2271 Clybourn Avenue, Chicago, phone Diversy 3766, by May 1. General repair of Linotype and Intertype parts, molds, etc., makers of Reid Magazine Racks, etc.
2271 CLYBOURN AVENUE, CHICAGO

Research Laboratories for a newspaper group. More than 170 four-color effects were shown. The chart is used by artists to prepare drawings which achieve maximum color effects for a minium of platemaking.

The work of the Laboratories includes research in such fields as packaging, varnish, paint, industrial finishes and so on.

The Laboratories cooperate with press equipment manufacturers in working out new designs in press machinery, which can be used to take advantage of improved printing methods. For example, the development of the Vaporin process brought about the need for construction changes in press equipment since heat application is necessary in this method. The Laboratories worked out machinery designs which would require the least trouble and expense to adapt press equipment to Vaporin runs.

Problems of packaging and fabricating have also taken the attention of The Research Laboratories. The Vaporin process has been applied to jobs where fabricating must be done after printing (for example, bags, cartons, packages, and containers that must be folded or assembled after being printed in a flat state). The material to be processed can be run directly from the press into a fabricating machine to be folded, stamped, or assembled.

The work of the Laboratory often results in merchandising developments. An "automatic" mixing board brought about the introduction of the IPI Match-Box which makes possible the production of more than 100 colors from seven basic inks so small printers may offer complete color matching facilities without acquiring a large stock of inks.

Officials of IPI believe that all the benefits of research are not at once apparent—a true evaluation of the results of IPI's laboratory studies cannot be made for several years. But they think that the results thus far achieved are sufficient to indicate that a sustained program of research is not only justified but indispensable to industry.

Reports Export Increase

The Cromwell Paper Company, Chicago, reports a decided increase in export business since the beginning of the year.

"The printing business is very definitely on the upgrade in the Scandinavian countries and the British possessions," says David Weil, Vice President in charge of Exports, "and there is an increasing demand for American-made products because of their dependable quality."

The Cromwell Paper Company has added a number of new foreign distributors since the beginning of the year.

DuPrene

(*Continued from Page 28*)

do not penetrate deeply and as a result very little grinding is necessary to refinish them.

The length of service of chloroprene rubber rollers and plates, as well as the service the rollers will give before regrinding is required, cannot be stated definitely since both are dependent upon service conditions and the type of composition used. A great deal depends on the ability of the roller manufacturer to supply a composition best adapted to the use for which it is intended.

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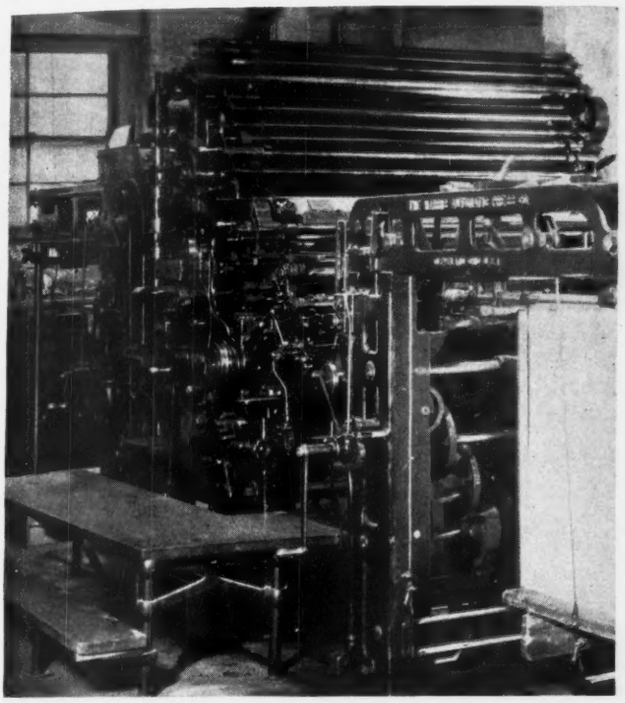
For Free
Trial Sheets
State Size
and Press
RIEGEL'S
DRUMHEAD
TYMPAN
Save time, temper and money with this ready-cut and scored topsheet of the finest treated jute. Sold by leading paper merchants in sheet sizes for high-speed presses only.
RIEGEL PAPER CORP. 342 MADISON AVENUE, NEW YORK, N. Y.

Certain types of these new rollers have been in operation for more than two years without refinishing. It has been found also that high-speed production is possible without sacrificing quality of printing. In view of the many possible ways of compounding chloroprene rubber for various service conditions, "DuPrene" rollers are available as newspaper rollers, form, distributor and ductor rollers of all types, and suitable for lithographing, offset and ordinary printing.

The difference between commercial and newspaper rollers is, of course, one of composition. Again, there are many types of composition for different commercial and newspaper rollers, depending on the types of ink and service conditions to be met.

Improvements in the use of "DuPrene" for plate work are being made constantly. In box and bag printing,

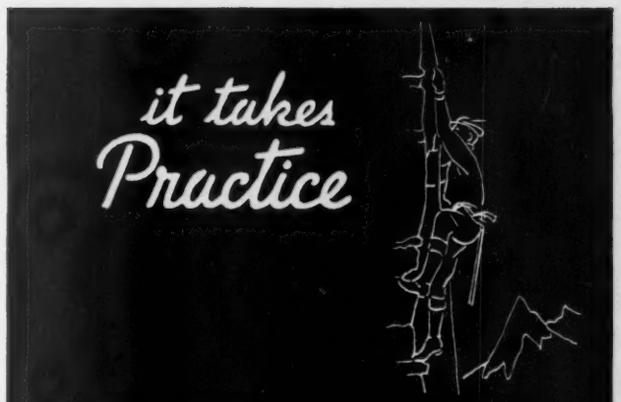


View of a Harris High-Speed Automatic Printing Press equipped with DuPrene Rollers.

where large figures are essential, this synthetic rubber has been found to be satisfactory as an engraver's rubber. It is said that the dies cut clean and hold their edges, for, while being sufficiently resilient, chloroprene rubber is tough and not subject to crumbling or nicking under ordinary printing conditions.

The molded plate is made by printers from unvulcanized chloroprene rubber compounds secured from a rubber manufacturer, the method of molding and vulcanizing being similar to that used in making rubber plates. Clear-cut molds it is reported, result from these compounds and halftone screens reproduce successfully. Manipulation of these plates on the press is similar to that of rubber plates.

Plates for engraving consist of a "DuPrene" composition face and a rubber composition backing with a fabric insert between. The engraving is done in the usual manner and afterwards the chloroprene rubber facing in the non-printing areas stripped down to the frabric. This type of printing plate is said to have smooth cutting edges and is resistant to inks and washing solutions, the same as the rollers. A new process for cutting plates by automatic tools controlled by a photo electric cell uses this type of plate exclusively.



Scaling hitherto unclimbed peaks requires years of practice and preparation. The heights to which Kimble Graphic Arts Motors rise in their performance are the logical result of Kimble's 30-year specialization in this field.

KIMBLE ELECTRIC COMPANY
2011 West Hastings Street, Chicago, Illinois

KIMBLE Motors
Distributed by
AMERICAN TYPE FOUNDERS
Branches and Sales Agents in Twenty-Five Cities

DIXON'S TRIPLE-ACTION MOLD POLISH

Cleans quickly, lubricates effectively, preserves mold edges. These three essential qualities, combined in Dixon's TRIPLE ACTION MOLD POLISH are unobtainable in any other single polish. After use, it leaves mold surfaces coated with a velvet-smooth, heat-resisting veneer of Dixon's high quality flake graphite. Be sure you get the genuine, not any other marketed under a similar name.

The genuine is a product of the makers of No. 635 graphite universally used on space bands in composing rooms. Sample free. Full size giant can, 75 cents. At dealers everywhere. Names on request.

JOSEPH DIXON CRUCIBLE CO., Jersey City, N. J.

LOOK FOR THIS TRADE MARK GRAPHITE EXCELLENCE SINCE 1827 ON COVER OF RED CAN

Use FITZ-LIVECORK PRESS BLANKETS
Write for Samples and Prices
FITZPATRICK FELT MANUFACTURING CO.
1971 EAST 79th STREET CLEVELAND, OHIO

THE SUCTION THAT LIFTS THE PAPER IN ALL SORTS OF FEEDERS

They are also used for blowing to loosen up sheets of paper on a pile feeder, and we have strainers to prevent oil from spraying on the sheets.

The printer also uses these pumps for cooling linotype molds and for blowing dust out of the working parts of machines and out of type cases.

The electrotyper uses the air for agitating his plating solutions, and these pumps are found in almost every plant doing this work. All sorts of shops use them for all sorts of air using devices.

IDEAL FOR VACUUM PRINTING FRAMES

In the big shops, especially in the newspaper plants, these pumps operate the stereotype furnaces creating high heats with gas or oil as fuel.

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● Technical Literature

Readers of *Printing* EQUIPMENT *Engineer* who are interested, may secure any of the Books, Catalogs or Bulletins listed below by checking the literature desired in the square opposite the title. Mark carefully only that literature which you wish to receive. Fill out the coupon and send it to us. The literature will be forwarded gratis except where noted.

☐ *Diaphragm Type Pressure and Vacuum Switch Bulletin*—For utilization as motor starters on applications where small motors are used, such as air compressors and water pumps. Where large motors are used, the pressure switch can be used as a pilot device for controlling automatic starter.

☐ *D.C. Magnetic Controller Bulletin*—For constant and adjustable-speed motors. Bulletin discusses applications and presents technical details.

☐ *How to Grind Lathe Tool Cutter Bits*—Gives methods for grinding all popular types of lathe tool cutter bits with illustrations of particular angles. Applications for which each of these tools is used is also included. Shows, also, manner of applying the tool to the work.

☐ *Ideal Family*—Sixteen-page booklet shows the complete Intertype Ideal family with its several useful combinations. This booklet contains many exhibits of practical examples of book and periodical work for which it is claimed Ideal is so well adapted.

☐ *Swift-Satisfactory Color Printing With Present Presses*—Illustrated folder printed in color describing advantages of auxiliary color ink fountain for use on Hoe, Goss, Scott, Wood and Duplex newspaper printing presses.

☐ *Top Cards*—Folder which is intended to show in a single spread the chief characteristics and exemplary sizes of Bauer type design. Size, when folded, 4¾ in. by 9⅞ in. Opens to 36½ in. spread with specimen type faces available for inspection at one time.

☐ *Offset Preventing Equipment Broadside*—By means of many illustrations shows various types of equipment and numerous installations in pressrooms. Broadside printed on white enameled stock without slipsheeting or traying.

☐ *Vibration Isolation Bulletin*—Illustrated, four pages, contain a technical discussion on the effectiveness and adaptability of steel springs for isolating vibration. Examples: Compressors and Diesel engine-generator installations.

☐ *A Selection of Fifty Continental Typefaces*—The broadside shows each letter of the alphabet in caps or lower case composing each font. The name of each face is given with the alphabetical showing as well as the point sizes in which fonts of each face may be obtained.

CLINE-WESTINGHOUSE ELECTRICAL EQUIPMENT
FOR ROTOGRAVURE PRESSES
ALTERNATING CURRENT
DIRECT CURRENT
ENGINEERED FOR . . . LOCAL CONDITIONS
CLINE SYSTEM
DESIGNED FOR . . . PRESS REQUIREMENTS

☐ *Brass Type*—Illustrated leaflet describing "Dornemann" series of type faces cast in brass for stamping purposes.

☐ *Automatic Four-Corner Cutter*—Leaflet illustrates and describes a new completely automatic machine for simultaneously cutting the four corners of set-up box blanks for long and short runs.

☐ *Stringing and Knotting Machine*—Described briefly in circular. Puts loop of thread or cord in tags, price tickets, booklets, pamphlets, price lists, etc.

☐ *Arak*—Bulletin is printed on Arak paper, tan color, and type is set in Eve Series. This paper sponsored by Whitehead & Alliger Co., type by Continental, and printed by Peter Beilenson at the Walpole Printing Office.

☐ *Illustrated Bulletin*—Demonstrates use of Ernst Lensic Screen and equipment for offset plate-making purposes, both in black and color.

☐ *A. C. Preset Speed Printing Press Controllers*—Bulletin illustrates and describes controller for job, flat-bed, rotary and offset presses, as well as bronzers, embossers, waxing machines and tin-plate presses.

☐ "*Offset—The Modern Method*"—Booklet presents discussion of various aspects of offset-lithography and its place in the printing field. By H. A. Porter.

☐ *Rouse Roller Fans*—Bulletin illustrates and describes fans for various types of presses.

☐ *Composing Stick Bulletin*—Line of composing sticks fully illustrated and described in bulletin.

☐ *M & L Makeup Frame*—Bulletin describes simple gauging frame for use by makeup men when assembling catalog or other pages of matter so that all pages assembled by different men will be justified the same length.

☐ *Illustrated Bulletin*—Describes Plymouth Knife Grinder for sharpening paper and other knives in the printing plant.

☐ *Intertype Ready Reckoner*—Fitting type to copy by the character count method fully explained. Charts pertaining to various Intertype faces also included.

☐ *Booklet*—Presents specimen and one-line showings of all the sizes of Ideal type face with combinations which have been cut to date.

Printing EQUIPMENT *Engineer*,
1276 West Third St., Cleveland, Ohio.

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Attention of.....

Position.....

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City.....State.....

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Sizes available: Regular, Teletype, Thin, Extra Thin and Jumbo
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Write for Information
ILLINOIS TESTING LABORATORIES, Inc.
139 W. Austin Ave. Chicago, Ill.

Errors

(*Continued from Page 13*)

him which prevent the release of a matrix after a key has been depressed. In other words, there are nearly fifty reasons why the "h" matrix may be missing from "the," even though the operator has depressed the "t," "h" and "e" keys. Imperfections also develop which cause matrices to double (as in *thhe*), or to transpose (as *hte*), or which cause the wrong matrix to be released (as *tre*). It is obvious, of course, that all of these mechanical errors are not encountered frequently.

These same kinds of errors may also be caused by faulty operation of the keyboard. In the case of a transposition the operator may actually have set "hte" and when a letter is doubled, as in "thhe," he may have held his finger on the "h" button too long. Where a letter is missing, he may have failed to touch the key for that letter, and where a wrong letter occurs, he may have touched the wrong key. But whether the man or the machine is responsible for typographical errors, they occur in remarkably consistent ratio.

In checking proofreaders' proofs of millions of lines of composition, the Matrix Contrast Corporation has found that three lines out of each 100 are reset because of typographical errors. The number of these errors which proofreaders mark in original proofs normally varies from 2.5 to 3.5 per 100 lines. Whenever the average in a plant is found to be less than 2.5, a few of the proofs are read to see how closely the proofreaders are marking errors. Almost without exception it develops that if the proofs had been read with a normal degree of accuracy, the average for the plant would be in excess of 2.5 typographical errors per 100 lines. Repeated experiences in this respect show definitely that these errors occur consistently at the rate of approximately three to each 100 lines.

Now, the average operator oftentimes "feels" such errors when either he or the machine has made them. But he is handicapped in correcting them in the assembler before the line is cast because the reference marks on the matrices are exceedingly difficult to read. Rather than strain his eyes in the effort to read the reference marks, he casts the lines without first attempting to catch and correct the errors. Fortunately, however, it is not necessary for operators to work with matrices, the reference marks of which are hard to read, nor to tolerate a high ratio of typographical errors.

By the simple expedient of applying Black and White contrast to the matrix reference characters, so that operators can read them easily, more than 60% of all typographical errors are caught and corrected before the original lines are cast. Since this 60% saving in typographical errors is made without retarding the rate of original setting, a large saving in time and money naturally results.

There are also a few less significant measures which will help to reduce the mechanical portion of typographical errors. These minor measures, all of which fall within the realm of machine care, include the cleaning of matrices, magazines, and keyboard mechanisms, and the cleaning and proper adjustment of all parts which affect the release and travel of matrices through the machine. But even though all of these precautions have been taken, as they are in all well-managed composing rooms, the contrasting of the matrix reference marks will still reduce the remaining typographical errors by some 60%.

(*To be Concluded*)

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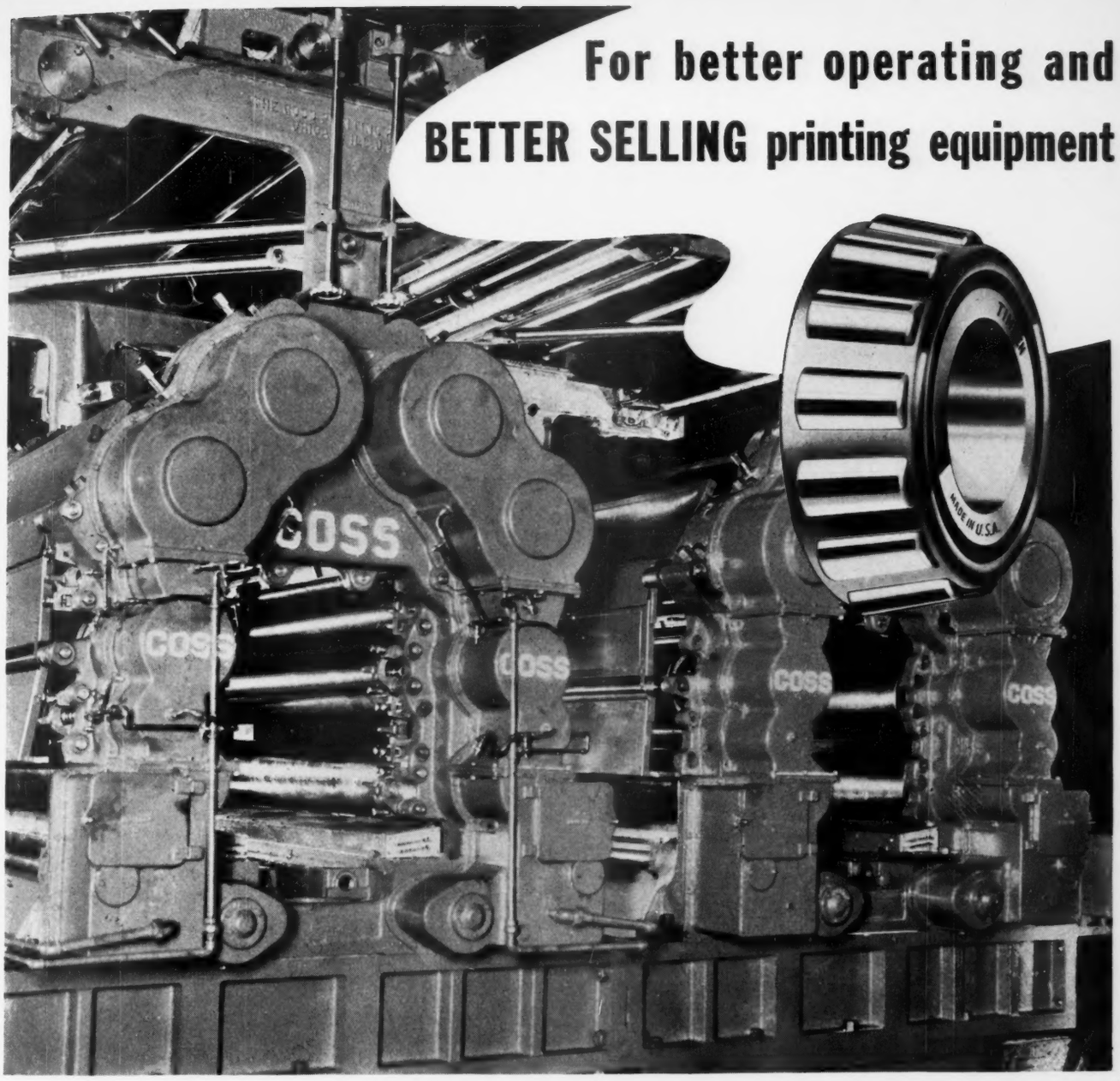
For better operating and BETTER SELLING printing equipment



Erection view showing 2 of the 34 units of the Timken-equipped Goss High Speed Anti-Friction Press installed at the Chicago Tribune.

The use of Timken Bearings is becoming an increasingly strong factor of improved work, higher speeds and lower costs in all types of modern printing presses.

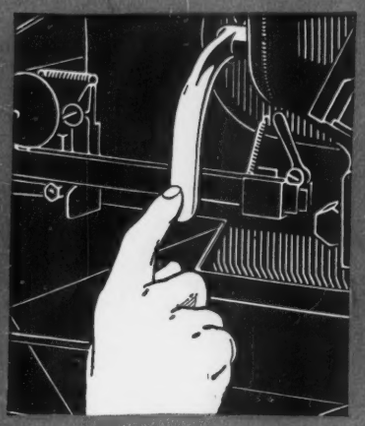
When *precisely preloaded* Timken Bearings are applied to plate and impression cylinder shafts, the resulting precision is akin to that of modern Timken-equipped heavy duty machine tools where accuracy is specified in tenths of thousandths of an inch. Cylinders are held in rigid and permanent alignment; shaft wear is prevented; and radial-thrust loads kept under constant control.

And because "Timken" is a name universally associated with industrial equipment that operates better and lasts longer, "Timken Bearing Equipped" is one of the strongest sales points any kind of printing equipment can have. Timken engineers are always at your service for consultation.

THE TIMKEN ROLLER BEARING COMPANY, CANTON, OHIO

TIMKEN *TAPERED ROLLER* BEARINGS

SIMPLE



AS ABC

INTERTYPE

SPLIT-SECOND TYPE CHANGES WITH FINGER-FLIP CONTROL

FINGER-FLIP changes from one magazine to another—from one type to another—quick as a flash! There you have one reason why the new Intertypes of today are proving to be so profitable. Another factor is the ABC simplicity of these quick changes. There is only a slight movement of the keyboard rods—no complicated mechanisms to get out of order and cause delays. In fact, Intertype's traditional simplicity of design has been maintained throughout the construction of all the new Intertypes. They are built for dependable, trouble-free service—for faster production and minimum costs. ★ The finger-flip changes are a feature of Intertype "mixer" machines—including the New Four-Magazine Models F and G. Non-mixer Intertypes have the popular, quick, easy-to-operate chain shift for changing from one magazine to another. ★ Intertype now offers a complete line of unit-built machines, carrying one, two, three or four magazines, with the latest developments for economical type composition. All of them can be equipped for Automatic Quadding and Centering, Low-Slug Quadding, and the Intertype One-Machine All-Slug System (up to full-width 60 point caps). Investigate the Intertype now. ★ Write to INTERTYPE CORPORATION at 360 Furman St., Brooklyn, N. Y.

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